Introduction

Higher Education has undergone a significant amount of change over the last two decades. One of these developments has been the introduction of new technology into the learning and teaching environment. It is in this context that the ADC-LTSN commissioned an investigation into how staff in Art and Design were supported in their development of the use of communication and information technologies (C&IT). This research project was further supported by the University of Wales Institute, Cardiff (UWIC) and took place between October 2003 and July 2004.

As stated, the main aim of the project was to discover how staff in Art and Design were supported in their development of the use of C&IT and how that has impacted on curriculum development and accompanying learning, teaching and assessment strategies. In addition, there were three further aims:

1. To map staff development in C&IT within the Art and Design community

2. To analyse the effectiveness of C&IT development in terms of:
   (i) Specificity of development offered
   (ii) Relevance to the Art and Design curricula
   (iii) Spread of opportunities across Higher Education Institutions (HEIs)
   (iv) Perceptions and experience of staff

3. To record the findings of C&IT development for staff available in the sector

The project adopted a two-stage approach to the research. The first stage of the research involved sending out questionnaires to Staff Development Units, Heads of School and Academic/Support staff across 80 UK Higher Education Institutions.

The second stage of the research project consisted of semi-structured interviews with Academic/Support staff as well as Staff Development Units. Based on the replies to the questionnaires, a selection of individuals and institutions were approached to participate in these interviews. The aim was to reflect the range of staff positions within the institutions through investigating staff development opportunities in relation to C&IT. The qualitative analysis of the interview data produced an initial indication of the C&IT staff development
programmes currently employed by the sector and needs identified by the sector for future development.

The outcomes of the research project aim to assess the effectiveness of current C&IT development for staff in Art and Design by identifying the range of opportunities offered, their applicability for the subject area and the implementation of strategies for curriculum design, learning, teaching and assessment resulting from development. Furthermore, the project will evaluate the appropriateness of institutional/departmental opportunities and consider opinions and experiences of those who have been involved in staff development programmes in this area. It is anticipated that identified good practice can be used to support future development in the sector.

**Literature Review**

Communication and Information Technologies (C&IT) are having a profound effect on society. Technology is having such a significant impact on the way we live, work and communicate that many commentators argue that we live in an information age. This is demonstrated by Grant (2001), who states that the C&IT revolution ‘has so profoundly affected the lives of most of the developed world, that we can now position ourselves in a shared reality that is collectively called “The information age”’ (Grant, 2001: 1). The level of home ownership of personal computers and the phenomenal growth of the Internet supports this observation (Carmichael, 2003). Furthermore Dutton and Loader (2002) indicate that ‘the production and use of new ICTs in education and throughout society has been supported by business, industry and government’ (Dutton and Loader, 2002: 2). Thus it is inevitable that C&IT is having an impact in the area of Art and Design.\(^1\) Although there has been little written specifically in the area of Art and Design, this literature review will examine how much of an impact C&IT is having on the area of education in general and in Art and Design. First, we will give an overview on the introduction of C&IT in education and the impact of

\(^1\) The QAA Subject Overview Report 1998-2000 reported that 'Art and Design is characterised by the diversity of the range of specialism and awards' and identified nine generic areas within art and design - fashion/textiles, fine art, graphic design, photography/film/television, three dimensional design, general art and design, multidisciplinary, media production, and 'programmes which focus on a distinctive area of academic study or professional practice'. The UCAS Handbook lists at least 170 different course titles, which appear to involve some aspect of the subject. The boundaries of art and design have become increasingly blurred, and many disciplines within the subject have become less singularly focused, increasingly generic or interdisciplinary. Such is the 'nature of art and design' (Art and Design Benchmark Statement).
visual learning environments (VLE) in higher education. Second, we will look at professional development in higher education and the relationship academic staff have with C&IT systems. Third, we will discuss institutional support of opportunities available for staff by drawing upon the findings of the NetCulture (2001) study as well as relevant sources within the Art and Design sector. Finally, we will focus on staff development opportunities in relation to C&IT that are specific to the Art and Design higher education sector.

C&IT in Education

It has been argued that information technology will revolutionise educational provision (Hewitt-Taylor, 2003: 457). New technologies have gradually been incorporated into the world of education. Traditionally, C&IT in education has been used for administrative tasks and was not seen as part of the learning process (McCannon and Crews, 2001 cited in Demetriadi, 2003: 20). However, as digital technology is connected to wider social, economic, cultural and political change, C&IT has been introduced to the learning process in all educational institutions, including higher education. Grant (2001) describes this as a logical step, which responds to the ‘socio-economic trends that impact upon Higher Education – itself an integral part of the Information Age’ (Grant, 2001: 1). In addition, there have been a series of government initiatives such as recommendations by the Department for Education and Skills (DfES) and the Dearing Report, designed to encourage and improve the use of C&IT in all spheres of education across the UK (Dutton and Loader, 2002; Carmichael, 2003). This is further emphasised by Dutton and Loader (2002) who state that education and training is central to economic development, which is indicated by the invention of terms like the ‘knowledge society’, and the identification of education, science and technology as the basis for a sound industrial policy. These views are allied to a belief that investment in ICTs can nurture a virtuous cycle in which education supports innovations in the technologies, which in turn improve learning and education (Noll and Mays, 1971: 2; Freeman, 1996; Castells, 2000 all cited in Dutton and Loader, 2002: 3). In terms of HEIs, a HEFCE survey undertaken in 1998 commented:

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2 A knowledge society can be defined as a society whose ‘economic growth is increasingly dependent on the rapid generation and application of knowledge – a world in which ‘knowledge’ has become the key to wealth’ (Harrison, 2000: 207).
An initial analysis of teaching and learning strategies in English HE...suggests that only a relatively small number of institutions have identified the enhancement of C&IT as a major part of their teaching and learning strategy (HEFCE, 1998).

However, more recently the HEFCE e-learning strategy notes, ‘the situation is rapidly changing and many more HEIs are developing activity on innovative modes of delivery, including e-learning’ (HEFCE, 2003). Reynolds et al., (2003) recommend that ‘ICT should be used as a tool to teach about aspects of the existing curriculum, and not taught as a subject in itself’ (Reynolds et al., 2003: 154). However, the relationship between Art and Design and C&IT is a more complex one than this characterisation suggests, because it includes both using it as an administrative and learning resource, as well as needing to teach C&IT skills to many students as part of the discipline’s curriculum.

Increasingly Visual Learning Environments (VLE) are being incorporated into higher education. A VLE is a ‘software tool, which brings together in one piece of software and one integrated environment’ (Ferl First, 2002). JISC (Joint Information Systems Committee) refer to a VLE as ‘the components in which learners and tutors participate in 'on-line' interactions of various kinds, including on-line learning’ (Ferl First, 2002). Browne and Jenkins’ (2003) longitudinal study of VLE systems identified that the introduction of these systems was ‘beginning to present cultural challenges for both academic staff and students in how they engage with their learning and teaching’ (Browne and Jenkins, 2003: 5). This was also identified by Dutton and Loader (2002), as C&IT innovations such as e-mail, multi-media communication and the Internet are changing ‘the very way in which we do things,’ which in effect ‘undermine or support the role of traditional gatekeepers in education such as teachers’ (Dutton and Loader, 2002: 5).

While the introduction of C&IT as another means of delivery of the curriculum has perhaps impacted more on text based disciplines, the nature of Art and Design's studio and practice-based delivery, has led to a more varied, suspicious and cautious uptake of C&IT in this sector. The AGOCG (Advisory Group on Computer Graphics) report of 1999 noted how information strategies at an institutional level were frequently seen as attempts to normalise Art and Design practices with the rest of the institution (Beardon, 1999). Scepticism among many staff was identified concerning the use of such technologies as part of their delivery system. These findings echoed an earlier report Informal
Survey of the Art and Design Community undertaken by JANET National User’s (Joint Academic Network), which noted in 1995 that in Art and Design 'there is (also) a lack of interest possibly due to conservative perceptions about technology, and a major lack of awareness of what technology can do' (JANET, 1995). Therefore, this demonstrates that although there is an integration of C&IT in all areas of higher education, some academic staff are unaware of the potential benefits of these systems.

**Academic Staff and C&IT**

Higher education institutions are experiencing various changes in terms of teaching and learning practices (Creaner and Littlejohn, 2000: 217). The introduction of information technology has seen a development in learning and teaching methods such as distance learning. Hammond and Bennett (2002) state that C&IT ‘has the potential of providing means for enhancing the variety or quality of group based learning, whether through supporting traditional methods, extending them or replacing them with novel forms’ (Hammond and Bennett, 2002: 5). Therefore, it is highly significant that teachers update their skills in order to meet the learning requirements of students. Furthermore, Creaner and Littlejohn (2000) indicate that ‘in order to meet these challenges universities are focusing increasingly on the Internet and the pedagogical opportunities which it provides’ (Creaner and Littlejohn, 2000: 271). Thus, tutors require to be supported in gaining, not only the technical skills but also understanding of the logical principles of effective course design and implementation. This can only be achieved by offering relevant staff development programmes in the use of ICT in learning and teaching (Creaner and Littlejohn, 2000). Masie (1999) states that in the knowledge economy, ‘the future of e-learning will blur the distinctions between training programmes, knowledge databases, and performance support’ (Masie, 1999: 34). Furthermore ‘as technology-based learning becomes an integral part of training, the learning and knowledge process will increasingly merge’ (Harrison, 2000: 208). Therefore, advances made in information technology have enabled the development of new teaching practices and new modes of learning to be incorporated into the arena of education.

Research has shown that some school teachers do not make ‘effective use of information technology for teaching’ due to their uncertainty about using computers. Thus there is a distinctive divide between ‘those who are in possession of knowledge versus those who are not’ (Skinner, 1999: 27). This gap tends to be generational as teachers are
seen to be bystanders, who make ‘no contribution, to an educational purpose that their pupils’ ICT use may have,’ (Dawes and Selwyn, 1999 cited in Carmichael, 2003: 106), whereas Stefon-Green and Reiss (1999) highlight that young people tend to be drawn towards new technologies and new modes of communication which allows them to become cultural producers (Stefon-Green and Reiss, 1999). Wider accessibility to digital technology in the leisure entertainment marketplace allows young people to use ‘both their consumption of the mass media and the production technologies...to make, share and enjoy electronically mediated cultural experiences’ (Stefon-Green and Reiss, 1999: 2). However, both students and teachers ‘must see the value in using technology for learning...but especially as a tool for meeting learning goals’ (Abrami, 2001 cited in Reynolds et al., 2003: 167).

Institutional Support

Research has shown that there is a lack of support for staff development in relation to C&IT at institutional level. The NetCulture project in 2001 identified that barriers existed at an institutional level in relation to staff development in C&IT. Staff that were interviewed in the project, stated that they often felt dissatisfied by the ‘failure by management to match resources to requirements, and a lack of realistic planning’ (Wiles et al., 2001: 12). The NetCulture project also identified that institutions lacked ‘strategy and vision to implement staff development in learning and teaching. Staff development could not progress because it was not part of any clear institution strategy’ (Wiles et al., 2001: 13). Furthermore, Coffield and Williamson (1997), in commenting on how strategies are often drawn up, note that 'in too many institutions of higher education, the new managerialism has deliberately dismantled mechanisms of participative democracy' (Coffield and Williamson 1997: 18 cited in Grant, 2001: 2). Thus, the institutional culture and managerialism has an impact on the support structure available for teaching and support staff in relation to opportunities in staff development.

Communication is seen as another important issue in terms of staff development as ‘providing for the range of needs often involves various support units working together to cover information needs, technical needs and pedagogical needs’ (Bowskill, 2000: 95). There are also concerns over finances as updating computing software and equipment is seen as expensive that management are reluctant to make investments in this area. Thus, problems can be created in
terms of staff development as staff may lack the opportunity to progress teaching within their subject area which in turn disrupts the students’ learning (Stefon-Green, 1999).

Resource issues were also raised by Stefon-Green (1999) in relation to schools, yet the observations can be made in relation to many non-specialist institutions:

For creative subjects, this inbuilt tendency to change can be doubly problematic. First of all the Art department, for example, needs to buy into or follow central changes in the school and be able to accommodate developments there. There can often be friction between specialist departments and the centralised ICT resource of the school. The fact that ICTs can, in theory, be used for a whole host of activities often means that schools can justify large one-off expenses. However, the infrastructure and training does not always exist to make use of possibilities. Traditionally, specialist departments have pursued their own agendas and run themselves autonomously. This situation will need to change to make best use of whole-school ICT resources – unless schools can afford to reduplicate expensive equipment across departments (Stefon-Green, 1999: 140-141).

Therefore, this observation identifies problems that are encountered by many creative disciplines, as issues such as the lack of resources and finances act as a barrier in updating systems.

Art and Design in relation to C&IT

Little literature exists that concerns staff development in relation to C&IT. In response to the growth of C&IT within the higher education sector as a whole, in 1995 the Conference for Higher Education in Art and Design (CHEAD) published an Information Technology Survey. It focused mainly on the deficit of IT equipment for staff and students in Art and Design, and also addressed issues such as technical support and staff development.

The AGOCG report provided a more qualitative overview within which to discuss strategic options for the sector (Beardon, 1999). Relevant findings, for the purposes of this research project, included a lack of investment in suitable computers and networking and sceptical attitudes to information strategies at an institutional level. However, AGOCG highlighted the need for the Art and Design sector to respond to these developments strategically with recommendations that
addressed such issues as institutional attitudes, learning and teaching, staff skill competency and the future need for online accessibility of learning-related materials for students.

Other case studies, projects and organisations have also addressed the issue of staff development within an Art and Design context, for example, the Computers in Art and Design Education (CADE) Conference 2001 and CTI in Art and Design\(^3\). Of significance in its contextualisation of Art and Design within the overall institution, Grant (2001) identifies the necessity for staff development to be a two way process which relies on successful relationships between academic staff and management (Grant, 2001). Drawing on the work of Beaty (1995), she proposes a model for Art and Design which combines both policy-led and innovation-led staff development, the latter providing a forum whereby staff can innovate and lead educational development (Beaty, 1995 cited in Grant, 2001: 2).

More recently, a Scottish initiative produced a report entitled *Supporting C&IT Staff Development Activity in the Visual Arts Sector of Scottish Higher Education* (2002). This also confirmed the difference in uptake of C&IT to support learning and teaching within the Art and Design sector compared with other subject areas and disciplines. The report highlighted that the needs for 'the visual arts have also tended to differ from the needs of other (more academic rather than practice based) disciplines, and this has led to different demands in quantitative and qualitative terms'. They concluded that there was a real need to raise awareness and share good practice without 'detracting from the traditional strengths of practice-based learning'. The Project proposed *A Cookbook of Ideas* (2002) which attempted to address staff development issues in the sector taking into account such factors as lack of staff time, the relevance of institutional staff development opportunities to the Art and Design situation, the incompatibility of Apple Macintoshes and PCs and the perception that learning technology has little relevance to the traditional teaching which takes place in Art and Design Schools (Shaw et al., 2002).

**Professional Development in Higher Education**

It is important to understand the context of staff development in a wider human resources context. Staff development or 'employee

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\(^3\) The CTIAD was one of the many initiatives to provide support in the Art and Design sector. Established in 1996, the CTIAD provided specialist, subject based support by answering individual queries, running workshops, on-line information and resource guides. The ADC-LTSN is the CTIAD successor.
development’ can be defined as a ‘process to help people acquire and maintain the competence and commitment that will:

- Improve performance, quality, customer service and long-term organisational progress
- Aid recruitment and retention, and stimulate and support continuous individual development
- Help to enhance the skill and knowledge base of the organisation and of the individuals (Harrison, 2000: 1).

Thus, in relation to staff development in higher education ‘much of the discussion relates to learning, whether this be life-long learning, organisational learning or discipline learning. Higher education concentrates on learning, both of students and academics’ (Gill, 2001: 35). Nicholls (2001) goes on to state:

Professional development that encourages experienced and inexperienced academics to work together can bridge the gap between the use of procedural knowledge and conceptual knowledge. It is at this juncture that the development of reflective skills is needed. If academics are to translate their discipline-based knowledge into effective pedagogy two things need to happen. First they must learn the techniques, rules and guidelines of the different forms of inquiry within their discipline; different elements call for different skills. Second, they must learn about themselves, and what it means to be part of the different elements of their discipline. They must not attend only to the knowledge and skills of chemistry, law or history, but also to themselves as future chemists, lawyers or historians within the academic community and the world at large. They must address what it means to have ‘competence’ in both these areas. Essential to the above is the understanding of what it means to be reflective (Nicholls, 2001: 60).

Furthermore, Gill (2001) states that ‘professional development is about learning and modes of learning. At present most modes of professional development in higher education are shaped by the social structures in which they are located and by the influence of historical traditions of learning’ (Gill, 2001: 39). This was also identified in the NetCulture (2001) project, a Scottish initiative investigating C&IT development across the HE sector in Scotland. It stated that institutional culture could shape professional development (Wiles, et al., 2001).

However, as Candy (1999) notes all academic staff have professional identities:

Whether or not we like the language of students as ‘customers’ who demand value for money, the fact is that university lecturers must have at least two
professional identities: one as a practitioner (and expert) in their chosen field of study, and the other as a professional educator (Candy, 1999 cited in Baume, 1999: 6).

Furthermore, it is evident that different disciplines may ‘hold different conceptions of professionalism’ within the discipline. This in turn may have implications for their conceptions of professionalism in teaching’ (Candy, 1999 cited in Baume, 1996: 6).

It is with this context in mind that the recent consultation document, jointly published by Universities UK/SCOP/HEFCE/HEA Towards a Framework of Professional Teaching Standards (2004) proposes that:

any framework should be sufficiently flexible to enable staff development programmes and courses to accommodate the requirements of individual institutions, disciplines and other specialisms... whilst incorporating common principles and expectations that can be applied consistently and robustly (Universities UK et al., 2004: 1).

This document is out for consultation at the time of writing. However, it will clearly have implications for staff development approaches and continuous professional development activities that an institution undertakes, whilst at the same time ‘minimising the burden on individuals and institutions’ (Universities UK et al., 2004: 8).

In terms of staff development in relation to new technologies, Harrison (2000) indicates that ‘warnings to employers and trainers of the dangers of failing to harness new technology to learning appear regularly. Rana (1999) referred to a number of reports, developments and predictions all pointing to the same critical issue: ‘Employers that fail to ensure their training providers are able to cope with rapid changes in delivery will find their competitiveness reduced’ (Harrison, 2000: 206). Thus, in relation to the higher education sector, students will go elsewhere if the institution does not provide skills that are relevant to the market place. As a result universities will suffer. Therefore, it is in the best interests of institutions that staff are offered the opportunity to develop their skills using C&IT.

Conclusion

In conclusion, the advances made in new technology and

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4 What are professional standards? ‘Professionalism’ is commonly understood as an individual’s adherence to a set of standards, code of conduct or collection of qualities that characterise accepted practice within a particular area of activity (Framework Document, 2004: 1).
communication systems is having a profound effect in the way in which society operates that C&IT has been integrated into the education sector. This demonstrates that digital technology has connections to wider social, economic, cultural and political changes. Government initiatives have also played an important role in the push for C&IT in education as a means of providing skills for economic development. As a result of these changes in education, and in particular higher education, academic and support staff need to keep up to date with changes that are happening within their subject areas. However, the lack of institutional support and the lack of resources may hinder these staff development opportunities in relation to C&IT.

**Findings and Discussion**

**Introduction**

In this section, we will first discuss the methodology that was used as part of the research process. Second, we will map the existing staff development opportunities in relation to C&IT by stating what programmes of development exist within establishments at an institutional level and school/faculty level. Third, we will move on to examine the effectiveness of C&IT development offered by indicating how training needs of Academic/Support staff are identified and publicised as well as exploring the reasons why staff update their skills. Fourth, we will discuss the impact of C&IT on learning, teaching and delivery, curriculum design and assessment before concluding on examples of good staff development practice in relation to C&IT.

**Methodology**

The project adopted a two-stage approach to the research. The first stage of the research consisted sending out questionnaires to Staff Development Units, Heads of School and Academic/Support staff across 80 UK Higher Education Institutions. 80 questionnaires were distributed to Staff Development Units, a further 80 questionnaires were administered to Heads of School and 10-15 questionnaires were distributed to all Academic/Support staff at each institution. In total, there was a 61% response rate. Responses were received from staff in 37 non-specialist\(^5\) (76%) and 12 specialist\(^6\) institutions (24%). Response rates from the categories of staff were:

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\(^5\) Non-specialist institutions refer to Higher Education Institutions with Art and Design departments.

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• 13% Academic/Support staff
• 26% Heads of School
• 15% Staff Development Units

Breaking this down further into specialist and non-specialist institutions, the response rate was:

Specialist institutions:

• 30% Academic/Support staff
• 37% Heads of School
• 40% Staff Development Units

Non-specialist institutions:

• 70% Academic/Support staff
• 63% Heads of School
• 60% Staff Development Units

The second stage of the research project consisted of semi-structured interviews with Academic/Support staff as well as Staff Development Units. Based on the replies to the questionnaires, a selection of individuals and institutions were approached in order to participate in the interviews, with the aim of reflecting the range of staff positions within the institutions through investigating experiences and opinions of staff development opportunities in relation to C&IT.

The following sections will map out available staff development opportunities, analyse the effectiveness of C&IT offered and assess the effectiveness of current C&IT development for staff in Art and Design.

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6 Specialist institutions refer to Higher Education Institutions that are purely Art and Design based.
Mapping existing staff development opportunities in relation to C&IT

Institutional level

All three categories of staff were questioned about whether or not they have a staff development strategy in relation to communication and information technology (C&IT) at both institutional level and at school/faculty level. The majority of the respondents in the survey stated that there was a C&IT staff development strategy at an institutional level. When responses were broken down further into non-specialist institutions and specialist institutions, again the majority of respondents stated that there was a staff development strategy at institutional level. However, 27% of Academic/Support staff from non-specialist institutions and 5% of Academic/Support staff from specialist institutions said they did not know of any staff development strategy at institutional level in relation to C&IT. This can be demonstrated below:
School/Faculty level

Staff were then questioned about whether or not their school/faculty has a staff development strategy in relation to C&IT. In this instance, the responses were mixed. It was interesting to note that 28% of Academic/Support staff and 42% of Staff Development Units stated that they did not know of any staff development strategy at school/faculty level in relation to C&IT. This indicates that Staff Development Units know little about what is going on at school/faculty level, which could be due to the lack of communication between and within departments, or that the methods of publication of such staff development strategies at school/faculty level is not as effective as first thought.

Differences also seem to exist between non-specialist institutions and specialist institutions:
Figure 2: Do you have a staff development strategy at School/Faculty level?

While 33% of Staff Development Units and 58% of Heads of School from non-specialist institutions stated that there was a staff development strategy at school/faculty level, 48% of Academic/Support staff from non-specialist institutions claimed that they did not have a specific staff development strategy at school/faculty level. Again, this could be due to a lack of communication between departments.

In comparison, the majority of staff from specialist institutions stated that they had a staff development strategy at school/faculty level. This indicates that differences may exist between specialist institutions and non-specialist institutions in the provision of staff development opportunities. It could also indicate that there are differences within the structures of different types of establishments as Art and Design departments from non-specialist institutions tend to rely on central departments to organise staff development strategies, who may not necessarily understand the requirements of the discipline.

Generic and Discipline Specific Workshops
During the interviews, nearly all teaching staff stated that their institutions held generic centred workshops. These workshops provided courses on Microsoft Word, Microsoft Excel and Microsoft PowerPoint. The majority of teaching staff employed by non-specialist institutions stated that their institutions ran PC-based generic workshops rather than discipline specific:

R5: It’s very good but in the generic way, it’s very good for Microsoft products but not very good for specialist software – the schools and the subjects have to sort that out themselves...it supports the range of software, they don’t do Flash, they do practically all the administrative software.

However, there were some members of staff who preferred to learn generic skills on the job:

R12: Generically, I suppose I update my skills by using stuff like web, e-mail, getting my head around it. Nobody taught me how to use Word or Excel, but I can use it only because I taught myself.

Although there is variance in the sector in terms of PC and Apple Macintosh usage, the majority of teaching staff use the latter as part of their teaching and delivery. The lack of support available for Apple Macintosh has often caused problems between the school/faculty and central departments within non-specialist institutions:

R16: whenever we’ve suggested group software training, it’s never come about and we have a member of staff in charge of IT who does very little towards this, in fact we’ve constantly made declarations towards him over about Apple Mac and he turns a blind eye, so much so that they are trying to push the school until it’s PC based. Which of course is outrageous, because they think that we’re being funny, being graphic designers, we’re a pain in the neck, we use Macs to be different or something, but in fact a lot of my graduates will go and work somewhere like the BBC. The BBC is Mac based, that’s what designers use, but this guy is PC based and also the main IT servicing department in the University is PC based. Nobody in it has knowledge of Apple Macs, the only people who have knowledge of Apple Macs is the technicians that service everybody else’s requirements.

This also led to some staff feeling that Art and Design as a subject was not valued by their institution:

R13: there is a big division in this university between PC and Mac users. Our profession demands that our students or graduates go out with a knowledge of particularly using Mac. That’s a big debating point here, because of support for Macs, but we have to be able to use PC as well, and I think in a broader sense, it’s obviously good because it gives you a confidence of working with

7 Throughout the report, R = Respondent
students who have to use IT for all sorts of things, anything as small from note-making to essays and practical work, what have you.

There were a few exceptions, as one non-specialist institution offered training in ‘obscure’ software such as Max MSP. This opportunity came about, as one member of staff happened to be very pro-active in bringing in training for members of staff. In addition, the institution in question has seen the potential of digital technology and pro-actively supports it as well as the subject area of Art and Design. Findings showed that at an institutional level, both types of establishments evenly supported generic software programmes by providing training in Email, Microsoft PowerPoint, Microsoft Office, Internet and VLEs. Specialist institutions ran more subject specific workshops/training opportunities compared to non-specialist institutions at institutional level. For example, 85% of Academic/Support staff from specialist institutions compared to 30% of Academic/Support staff from non-specialist institutions said that their institution provided training in Photoshop. However, it is interesting to note that more Academic/Support staff (66%) from non-specialist institutions said that their institution provides training in VLE systems compared to 48% of Academic/Support staff from specialist institutions. This is demonstrated in the illustration below:
Figure 3: Software training provided by the Institution

Figure 4 below indicates that the courses on offer by the school/faculty of Art and Design at non-specialist institutions offer more discipline specific training in comparison to central departments. This demonstrates the differences between the various departments at institutions. Therefore, it is evident that resources are a major concern in the provision of training in generic software and discipline specific software programmes. As software programmes are updated on a regular basis, particular departments may put constraints on financial resources in updating skills for teaching staff, as it may be too costly:

R4: I can understand that there’s no way that the institution will put on a course to train a number of teachers or to maintain that level of skill base, whereas with the generic thing like Blackboard and PowerPoint, I understand that those would be allowed for staff. I’m not saying that I’m happy with it but I can understand the situation.

However, some Academic/Support staff spoke positively of their Schools in relation to developing C&IT skills and knowledge which was often through a postgraduate educational opportunity or other professional development:
R4: The School, to their credit do finance things like my MA development which was kind of...a renaissance, a re-birth with my creativity because I had been teaching for quite some time without being active, so I do think doing the MA I was able to be creative and it’s kind of changed my life...I’m more confident about the tool that I use to make things look well received by my MA course and my peers, so the School do pay for things like that...they do put on courses occasionally.

**Figure 4: Software training provided by the School/Faculty**

**School/Faculty Provision and maintenance of computer/software resources**

All staff were asked to rate their School/Faculty of Art and Design provision of computer software resources. Staff Development Units rated provision and maintenance of computer/software resources more highly than Heads of School and Academic/Support staff, which is demonstrated by figure 5 below:
Figure 5: How would you rate your School/faculty provision and maintenance of computer/software resources?

To see if there were any differences between the different types of categories of staff and the type of institution, responses were broken down further:

Figure 6: How would you rate your School/Faculty provision and maintenance of computer/software resources?
As indicated by the above graph, Staff Development Units across both types of establishment are more positive than Heads of School and Academic/Support staff. This could be due to the fact that they have a different perception of what the provision and maintenance of computer/software resources are like compared to Heads of School and Academic/Support staff. This can be indicated by the fact that the majority (32%) of Academic/Support staff from non-specialist institutions stated that the provision and maintenance of computer/software resources were quite good and 27% stated that it was poor. Therefore, there are differences of perception in terms of resources.

Suggestions for improvements at School/Faculty level

All staff were then asked to suggest how improvements could be made to their school/faculty of Art and Design in relation to C&IT. A large majority of staff stated that they would like to see more support for skilled staff, this was then followed by greater financial support. Most notably 76% of Heads of School and 67% of Academic/Support staff would like to see more financial support given to their school/faculty of Art and Design in terms of C&IT compared to 25% of Staff Development Units.

As highlighted earlier, there is a division between PC and Apple Macintosh users. Unsurprisingly, more Academic/Support staff (49%) said that there should be inter-operability and support at an institutional level for PC and Apple Macintoshes. However, the number was low for Staff Development Units as only 8% agreed with this. The majority of Heads of School (52%) and Academic/Support staff (47%) stated that they would like to see more skilled staff to train to run courses. Again, this number was low for Staff Development Units (17%).
Therefore, this indicates how differences exist in the perception in the spread of C&IT resources. Unlike Heads of School, Staff Development Units appear not to have an overall view of how resources are distributed within departments, thus there are differences between users and providers of services and resources as they may not be aware of these problems:

R9: The problem with education is that a lot of these systems get put in place and are out of date very quickly and there isn’t an overview by somebody who actually has it done to them. So much of it’s done by Personnel and they haven’t a clue about it – which is not their fault – they have a different kind of job – but there’s not that kind of discussion or process.

**Effectiveness of C&IT development offered:**

In order to find out the effectiveness and specificity of the C&IT development that is offered within institutions, it was important to discover how the training needs of Academic/Support staff are identified by the school/faculty and how training opportunities are publicised. This would allow for any gaps to be identified.

**Identifying training needs**

As demonstrated below by figure 8, staff development and review progresses are widely used to identify the training needs of academic and technical staff. However, more Heads of School and
Academic/Support staff stated that their school/faculty used more informal methods to identify the training needs of staff:

![Bar chart showing percentages of different methods used by Staff Development Units, Heads of School, and Academic and Support Staff to identify training needs.]

**Figure 8: How does the School/Faculty identify training needs of Academic/Support Staff**

It was interesting to note that institutional strategies fair low as methods used by the school/faculty to identify the training needs of Academic/Support staff across all three categories of staff.

Therefore, there is a mixture of formal and informal methods in relation to identifying the training needs of Academic/Support staff at a school/faculty level.

**Publicising opportunities**

When questioned about how the school/faculty publicised training opportunities in C&IT, the responses from the Heads of School echoed the responses from Academic/Support staff. Most notably, email and online forms of communication were identified as being more widely used to publicise training opportunities. Furthermore, 79% of Academic/Support staff stated e-mail was used to publicise training, whereas 38% said online methods were used. One of the main reasons why e-mail and online methods are used to publicise training by Staff Development Units is because it is less expensive and more effective:

**R17:** I think now that 90% of the staff here know that’s the way it goes out, so we email out the details. We always produce a course outline, which will tell them exactly what’s on offer and exactly who it’s targeted at, that’s emailed around to everybody and posted on the website and then if they want to sign up to it then they will email me straight back and that works very well.
This demonstrates the impact that information technology and electronic forms of communication is having on the way in which we work and how the academic community has developed and changed in the sharing of information.

![Figure 9: Methods of communication used to publicise training opportunities](image)

**Figure 9: Methods of communication used to publicise training opportunities**

**Reasons for updating skills:**

To discover how specific these opportunities were, all staff were asked to state the reasons why Academic/Support staff undertake staff development opportunities in C&IT. The majority of staff stated that undertaking opportunities in C&IT supports their teaching. This was then followed by staff stating that Academic/Support staff take up training opportunities in C&IT as it supports and develops their research interests and own practice. A large majority of Heads of School (48%) added that it also supports the delivery of commercial or consultative work.
These results were echoed in the interviews with staff, most of whom identified either a particular teaching need or research situation as being the driving force behind developing their C&IT skills, both at a strategic level and as and when they arose in the course of the year.

From the questionnaires and interviews, there emerged a very dynamic relationship between a teaching and learning issue, which needed to be solved, and the updating of C&IT skills.

Many interviewees elaborated further on what motivated them to take up opportunities:

R15: A classic example is someone who wouldn’t go anywhere near it until he was given a role where he had to contact 2-300 people and very quickly realised that e-mail was the best way of doing that — so then he decided he was going to learn it and take it on board.

R12: At the moment, every Monday night I attend a course and I need to increase my skills level in a programme because my students need me to do that...I enjoy it as well...I quite like learning technology.

Furthermore, research activity in art, media or design also served as an important impetus for developing generic and discipline specific skills. The acquisition of new skills and understandings of the potential of new programmes clearly informed what was taught/demonstrated to students and how this might be applied to the enhancement of the curriculum:
R2: I’m driven a lot by my research...because what I found is that by doing it, all sorts of exciting things can happen and that is passed into my teaching in terms of some of the content and my enthusiasm.

While all staff spoke enthusiastically about this relationship between research activity and teaching, little mention was made of the relationship between any pedagogic research into the use of C&IT and learning and teaching approaches.

Teaching staff acknowledge the importance and central role that communication and information technology plays in higher education as well as in relation to their own work. Software is always being updated and changed. As a result C&IT tutorials change which often means staff have to update their skills in order to deliver their classes or workshops. Staff viewed this as a method of forcing them to update their skills. One respondent said that ‘learning software is really important...it helps me to keep moving with the times, and update my software skills.’ In addition, it also feeds the interests of staff, as they remain contemporary with changes. Staff tended to update their skills in C&IT to stay one step ahead of the students. However, some staff felt that there needs to be a cut off point as there is too much software to learn, which leaves less time to practice and embed new skills.

From the interviews, three sets of staff attitudes to updating C&IT skills have been identified. This categorisation is in no way fixed, but has served as a useful means to trying to understand the range of attitudes towards C&IT across the very different contexts that exist in the sector. These included:

1. Those that are motivated to update their skills regularly (more confident)
2. Those that do not update their skills (feel less confident or less convinced of the need)
3. Those that may take up development opportunities, but do not build up a confidence.

Firstly, there are those who are curious and update their C&IT skills and C&IT creation and design skills regularly. These staff seem to be highly confident and motivated — where they have come to believe they are competent learners and can thus take the lead in managing new situations and demands in this area, thus taking responsibility for the self (Reid and Barrington, 1997: 93). In staff development terms this can be thought of as a Continuous Development Spiral (Reid and Barrington, 1997).
Increasingly, it was felt by interviewees that younger staff entering Art and Design education are likely to bring these attitudes and abilities with them, as a result of their life experience of living in a digital culture.

Secondly, there are staff who may take up staff development opportunities in a new programme or be introduced to VLE but do not have enough opportunities to apply and embed that learning in meaningful outcomes. Consequently, they reported not feeling confident in integrating them into their delivery or feel able to advise students as to what is possible. Furthermore, several staff reported that this resulted in them ‘staying within their comfort zone’ of teaching or lacking in confidence in much of what they are expected to do. At the same time, they still felt able to teach ‘what is important’ i.e. the creative and critical principles underlying a discipline or practice, as long as it did not involve a fluency with particular software.

Finally, we interviewed a very small minority of academic staff — some of whom have engaged with new technologies from the earliest days — who now argue that it is sufficient for them to keep in touch with general technological trends, while focussing their teaching on exploring the impact of these new technologies on human awareness and the creative and critical processes of their students. Such staff acknowledge that younger staff and students have a firmer grasp of technology than they themselves — and celebrate it:

R7: I think it’s an interesting twist in the old power relationships with students...and you (the lecturer) must be providing something else cos you’re obviously not going to go to the lecturer to ask about how to design a web page. It’s quite nice that I ask them...it’s an exchange...I think for one generation it was an extraordinary development, the next were sort of more familiar with it but not necessarily the skills...but the next generation...no problem!

This demonstrates the different levels of interests and abilities that Academic/Support staff have in relation to C&IT. Not all staff feel confident in updating skills, whereas others are more confident and are curious in finding out more about the applicability to their teaching area. However, there is a general agreement as to why Academic/Support staff undertake training opportunities in C&IT. This can be demonstrated by figure 10 above.

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8 This attitude may be more sustainable given certain staffing structures, e.g. software skills are delivered by technical demonstrators.
Reasons for low take-up:

![Bar chart showing reasons for low take-up](chart)

**Figure 11: Reasons for low take up in C&IT opportunities by Academic/Support staff**

Time was identified as a major cause of why staff do not undertake opportunities in communication and information technology. As a result, many staff tend to update their skills or develop further knowledge of their discipline at home by investing in IT systems. Academic/Support staff also indicated that there is a lot of accountability and bureaucracy within present university culture, which acted as barriers:

R12: I think with all of us is something that we all got is the amount of time we spend dealing with bureaucracy and going to meetings cuts up your teaching time and your contact with students so badly, and that anything extra that you have to do becomes a bit of a marathon task. The way that I deal with it is that I’ve developed a little it of selfishness, not enough quite honestly – but yeah I think teachers are tired and if you’re actually going to sit in front of a computer and actually take all that new learning then you got to really want to do it.

The structure of the academic year was a concern for some of the Academic/Support staff that were interviewed, as many said that they tend to take up modules at the end of the academic year when they are exhausted:

R9: I think the academic year doesn’t support it at all...you are just haring around trying to get timetables done. I think research is the key to this and encouraging staff to do their own research and tailoring their staff development needs to the research...so instead of becoming an add-on, it becomes core rather than something which you are expected to do...it’s exactly the same as students.
The issues of work–life balance and the academic teaching week were raised during the interviews by teaching staff and are a real cause for concern.

Due to the increase in research culture within higher education institutions, some staff felt that ‘there is a real schizophrenia’ about whether they should be spending their time on teaching, research, attending meetings, administration or staff development:

R9: But I think time is absolutely it, cos the only time you’ve got to do staff development is at the end of term...everyone is exhausted and you’ve got your own research projects to work on, and we are moving very much into a research based culture here...which is great, love it, no problem but on the other hand it does mean that you are getting more and more stretched. We have had quite a bit of our admin taken away which has been great...they're templated or done by someone else but it's all the other meetings, ticking boxes and so on and we're also losing more sessional hours so although we are down to teach only our 18 hours, we don’t.

Staff also indicated that there was no time to practice and embed their new skills due to other commitments such as teaching and administration of course.

In addition, the attitude of central departments is not always very encouraging or supportive as teaching cover is generally not possible:

R12: In the old days if you went on staff development you would get teaching cover – it’s like ‘aren’t you lucky, we’re allowing you to do staff development, hey you lucky thing’ and it’s a different culture – the culture is now you should do self-improvement, here we are, we’re giving you the chance to improve yourself but the sub-text of that is you can spend time improving yourself but you’re still going to have to do the work that you lost that time doing.

However, the option of taking evening classes was not favoured as it ate into personal time and was seen as less effective as many teaching staff are too tired to attend classes after work:

R12: I mean I have to attend it in my own time, I don’t get time off to attend it, do you see what I mean? Last term I was doing Monday and Wednesday evenings, so y’know I could spend sometimes two evenings a week of my own time learning software which I’m really learning in order to do my job better, so I’ve got some issues with that, I think that staff development time should be actually bought out of work. I don’t think that when you teach all day, you’re knackered, you should really have to go and sit for another 2 and a half hours learning y’know complex programming techniques for instance.

Academic/Support staff prefer not to attend courses in their own time as it is ‘always going to be a contentious issue.’ Furthermore: ‘Staff
will have a right to attend it or not to attend it – so if there’s an element of choice, you’re always going to have some people will go and some people won’t.’

Thus, there are many issues that surround why Academic/Support staff do not take up opportunities in C&IT training. The lack of time was identified as the most significant factor. Teaching, assessment, research and attending meetings have a purchase on the time of Academic/Support staff. In addition, there are some members of staff that lack confidence in using C&IT, whereas other members of staff state develop them elsewhere.

**Developing skills:**

As highlighted above, many Academic/Support staff do not get the opportunity to update their C&IT skills in a formal setting. Thus, Academic/Support staff were questioned about how they developed their skills if they do not have access to much opportunities in staff development in relation to C&IT. A large majority (75%) of Academic/Support staff stated that they used trial and error in their own time to update their skills, whereas 50% claimed that they used trial and error methods as part of research and other academic activities. Only 8% said that they do not develop their skills:

![Figure 12: Methods used by Academic/Support staff to develop C&IT skills](image-url)

**Figure 12:** Methods used by Academic/Support staff to develop C&IT skills
Interviews mirrored survey findings. Many teaching staff tend to develop their skills independently, whether it be trial and error in their own time, as part of research and other academic activities, or with colleagues as they want to see the applicability to their area. The general feeling of staff that were interviewed was that they prefer to learn programmes at home, even when it may have been offered as a course at the institution:

R5: I just tend to get the programme and if I want to...if I identify something that I need to use then I just get the programme and just sit and y’know...the online help is increasingly good.

There were some staff that used trial and error as a way of learning new skills when there might not have been any opportunities about or it was discouraged.

Lack of resources was also identified as a means to why some staff update their skills by themselves:

R2: there was not a lot of support there and resources but when it came down to it, it was going to have to be me so I just bought myself a computer and just got on with it. In order to teach what I wanted to teach I just had to be sort of one step ahead of the students...learning software is really important cos it helps me to keep moving with the times, and update my software skills...I have a natural curiosity...you don't want to be driven by software.

Many staff still do not have their own computers at work, and in addition to this, many non-specialist institutions continue to not support Apple Macintoshes in a PC culture. Any one of these reasons or a combination of them can result in staff investing considerable sums of money in software and hardware in order to do this:

R12: I invested a huge amount of money, I mean on my own computer at home, I’ve invested £3000 in my own set up at home and so by doing that you’re learning - learning how to use the software.

Those that undertook opportunities stated that it has had an effect on their teaching and delivery as well as curriculum design, which will be discussed more fully later in the report. However, developing C&IT skills has meant that teachers are well informed as well as broadening the type of teaching staff can do and increasingly, their expectations of work by students:

R12: some of my second years have made interactive CD-ROMs of all their work that they’ve done this year – now a year ago I couldn’t have taught them how to do that so I couldn’t have expected it, so it makes me more ambitious for
them…it helps them to get a job – but I can do that early on in their course so I can start to establish those kind of skills cos I find that kind of software very sensible

This dynamic relationship between skill development and curriculum was very apparent in many interviews. Staff argued that students remained stimulated and fully supported when asking questions that students may have with software that they’re using.’ Furthermore, as one member of staff summarised, student questions and curiosity will:

R9: often drive the research and then the research will inform the curriculum and it is born from the curriculum and feeds back into the curriculum.

Therefore, staff use informal methods to update their C&IT skills such as trial and error in their own time or as part of research and other academic activities. This enables staff to enhance their teaching and delivery as well as expanding upon the type of teaching that they can do as well as raising their expectations of students.

Virtual Learning Environments

All staff were asked whether or not their institution has a Virtual Learning Environment (VLE):

![Graph showing the percentage of Staff Development Units, Heads of School, and Teaching Staff regarding VLE](image)

*Figure 13: Does your institution have a VLE?*

The majority (75%) of Staff Development Units and Heads of School (81%) considered that they had a VLE in place within their institution. Just over half (54%) of Academic/Support staff stated that they had a VLE in place within their institution, whereas 22% said that they did not know of such a system. However, when Academic/Support staff
were asked whether or not they used a VLE as part of their teaching and delivery, 55% said that they did not use one.

Broken down into type of institution, only a minority of Academic/Support staff employed by specialist institutions (22%) and non-specialist institutions (40%) stated that they used a VLE as part of their teaching and delivery.

Figure 14: Do you use a VLE as part of your teaching and delivery?

As highlighted above, a substantial number of staff reported that they already had C&IT skills. It was noted that they were referring mainly to C&IT practical skills for the making and doing of Art and Design, rather than skills for exploiting the potential of VLE. This indicates that there is still more dissemination and clarification needed about how VLEs might work for Art and Design.

Interviews also revealed that, particularly in non-specialist institutions, many training courses were considered to be too generic and not relevant to the needs of Art and Design. For example, there was some hesitancy among staff - particularly graphic design staff - to engage with some C&IT because of the lack of creative visual aesthetics of certain packages such as PowerPoint and Blackboard, which had been presented to staff at a generic and institutional level. These staff would have preferred more tailored staff development for Art and Design - where possibly Flash would have been more appropriate, or where Blackboard training might have included how Blackboard pages can be customised and designed - and not remain on default. Furthermore,
Baldwin (2004) notes that ‘VLEs are seen as constraining because they are visually dull...For online learning to work, consideration of content and pedagogy is essential’ (Baldwin, 2004: 12).

Embracing VLEs means that Academic/Support staff need training in this area. The following case demonstrates a good example of staff practice:

R13: We all went on a training course...It was run by our own in-house trainers and it was operated on campus and I think it was half a day training session using Blackboard so the entire department, which was smaller than it is now...sat in the room with their own terminals and we were talked through the process.

Effectiveness of current C&IT development for Academic/Support staff

Impact of C&IT on Learning and Teaching

While our research has identified some of the barriers and difficulties for staff in updating and developing C&IT skills, there is clearly increasing use made of C&IT at both a discipline and generic level across the sector to aid learning and teaching. The following section outlines those findings and examples of good practice, as well as highlighting some more unresolved issues.

Delivery

At its most basic, it is clear that C&IT has had an important impact on the way that staff deliver their programmes and maintain contact with students. E-mail is one of the easiest and most obvious ways of doing this. One institution is currently investigating the use of SMS text messaging through the VLE, while some individual staff already use text messaging in a limited manner:

R8: The undergraduates in halls, ok, some of them have got computers, some of them haven’t, they haven’t got that many terminals anyway y’ know and when they move out of halls they haven’t got a phone so they just text me...so they make ways round the technology...a mobile office, it is a mobility thing...it is opening up opportunities.

The use of a Managed or Virtual Learning Environment was very common, and both non-specialist and specialist institutions had well developed implementation strategies – which generally identified two key stages of development:
1. A certain percentage of modules were required to be available to students online by a certain date. At its most basic, this involved making existing module documents available such as briefings, schedules and lecture notes. This goes some way to meeting the demands of SENDA and addressing issues of greater accessibility. From our survey, most institutions are at this stage of development, albeit in a somewhat undefined manner at times:

R24: The institution was aiming to get 80% of courses on BB in the first two years which is what I think they have done – but what that means is different from course to course. Some colleagues have addressed it enthusiastically and have all their documents up, while others have the basic elements and that’s it.

2. The next stage of development set out to identify and extend the pedagogical underpinning and potential of VLEs in such a way that learning opportunities are extended and constitute a form of blended learning, as well as in some specialist institutions particularly, address its more creative potential for Art and Design. Here staff development is more focused around notions of the reflective practitioner and blended learning, and may not be so technically led.

R24: The next step...which is the most difficult one is encouraging colleagues to work with it as a learning tool rather than a site for information...that's the biggest challenge...Clearly there are individuals who are interested...and probably they will be the champions to take the next phase forward.

R13: what we did in our own department was to appoint a specific member of staff who had responsibility for that area and so he went to future training sessions and was able to trickle down the information he was given from that to us. So he’s also responsible for the general upkeep of our area of the VLE and that’s kind of how it works. The advantage of having one person do it is really a time constraint.

To support this latter stage, several institutions followed this model. One particular institution has recently set up a web discussion board for staff from across the sector to exchange good practice and project information.

Examples of good practice in terms of delivery included customising pages in a more creative and aesthetically appropriate manner for the sector, providing exemplars of previous student project work, interactive garment cutting tutorials and providing links and
information on resources. In some instances, Virtual Base Rooms or Discussion Boards had also been set up where students meet regularly with staff and/or each other. This provided some unexpected opportunities for staff to reflect on their teaching:

R23: I found that...one of the things I found interesting was, when I was teaching big groups, what I found fascinating was to track them using the tracking thing that I showed you. To discover people were actually going in to discuss these issues that have been talked about in class at 1, 2, 3 o’clock in the morning. They didn’t leave the lecture theatre and shut the door, they actually did think about it and that made me think about the way in which I taught much more and when people are going to engage and why they were doing it at that time, so it actually makes me much more aware what their experiences are and what difficulties they might be having.

Where there was a very diverse and dispersed group of students, there were a few instances where much of the curriculum was available through a VLE. In one instance a Foundation degree was delivered to a small cohort entirely online, although it was monitored very closely:

R24: It’s interesting that it’s actually been designed as a synchronous programme so most of the work is set at the beginning of the week so the students do it during the week and it’s monitored at the end of the week. So it mirrors the behaviour of teachers.

In terms of face-to-face delivery at briefing stage or in lectures, staff reported finding Flash or PowerPoint a useful means by which to not only present material more professionally (and thus set a good example to students) but also in helping them compile, manage and update briefings and lectures much more easily than before.

R3: I tend to kick off my project briefs with an interactive presentation and that’s quite helpful. One it reins me in and helps me focus, and also when I’m researching I don’t have to rely on all my own notes...I can put up bullet points easily...Also I can host more material. Somewhere I used to have videos stacked up, I now have captured DVD and video myself so it gives a more integrated presentation than before.

Another member of staff commented:

R9: So when I’ve been able to find the right room which has a Mac, a data projector and is networked, I’ve actually been able to access websites which has meant that I can say ‘Oh I want them to look at a Virgin brand’ or whatever, and rather than developing a presentation I can do it there which means you are much more up to date...so it’s actually much more immediate.

Presenting briefings or lectures in this manner made for an easy transfer to a VLE as well.
Finally, the emergence of C&IT as a central component of many Art and Design programmes has led to significant changes in the spatial relationships between different learning and teaching activities and staff/student relationships: in short the demise of the studio. The consequences of this continue to be debated and contested at institutional and school/faculty level:

R21: It was obviously going to have a profound effect on the learning and teaching environment because as soon as computers began to be used, we didn’t know if we could put them in the learning environment as we had traditionally configured it. So it went into another space...it was assigned another space, it didn’t come into the studios... they put their bag on the desk and went off to the computer...and we’re still trying to sort that one out.

Curriculum Development and Design

Clearly, since the creative industries draw so heavily on C&IT in order to do their business a strong link exists between the Art and Design sector and new developments in C&IT. Thus new developments and professional skills inform what an art or design curriculum might contain. Indeed the industry can drive the introduction and development of new courses, as well as impact on existing curricula themselves. It is therefore imperative that staff are aware of these developments and able to teach the discipline specific skills and abilities:

R19: It’s essential...I can’t not know the latest version of Quark for example or the latest version of Acrobat and creating pdf and latest versions of Word and how it affects how you work on screen. It’s as much about the uses the publishing industry are making of technology.

Staff’s own research also influenced curricula content although on a more ad hoc basis. How this ‘up-to dateness’ is viewed, varied across institutions and was dependent on financial resources and to some extent staff structures that are in place – particularly whether there were technical demonstrators. For example, in institutions where technical demonstrators regularly demonstrated C&IT skills (either in a workshop or embedded within a project) staff noted:

I⁹: What kind of C&IT skills do you think staff need to know?

R9: Dilemma, big dilemma. I suppose we try not to think about it but it does cause a gap in the curriculum...I really think it does and we tend to see our job on the education side, and what I suppose we've almost done is seen the

⁹ Through the report, I = Interviewer
curriculum divide between education of creative people and training, and also coming together. So we have specific people who would speak skills and then we have FT academic staff who are involved in the big picture and more connected to what’s going in your head, if you like...This problem does reflect the problems staff have with updating IT but the way we’ve set it up, does enable students rather than disable the students.

In relation to VLEs, several staff reported that in addition to making their course material more accessible to all students, the curriculum had also developed forward. They reported placing ‘basic principles’ on the VLE for example, thus freeing up time for deeper discussion and debate ‘rather than these formal things which we have been defined by in the past:’

R19: It seemed the one area which I could substitute resources for face-to-face delivery would be typographic design. Not that they’re not going to be taught it, but they can get a basic understanding and then I can take them on further.

In addition to this, one unit within an institution was beginning to provide on-line generic support specifically designed for Art and Design students:

R14: Language skills and study skills, a colour course where we can do various things. This group is doing this and I’m making use of it within the whole place...interactive stuff on Art and Design languages that anyone can access.

Assessment

In discussion with staff, it became very clear that having fluent generic C&IT skills and specific VLE skills, meant that staff were able to diversify the ways formative assessment was made and given to students. For example, draft dissertations were sometimes tutored online, which had the additional benefit of making it easier to detect plagiarism:

R22: So a few weeks ago, I had a meeting with staff here to talk about using Word as a tutorial tool cos it has fantastic reviewing tools – it works on two levels – which means you can work through the electronic...use Google for checking cutting and pasting, but it also has reviewing tools so that you can put in notes which you can type in for students to see...The only negative thing is that they (the staff) worry about is once you start communicating with someone electronically, they can easily start sending you 6000 words at a time...and you may have suggested 10 changes and they send it you back...but you can use the reviewing system...so you can skip through very quickly.
However, moving from the face-to-face tutorial situation to such online communication, raised other issues:

R6: the way we communicate has an impact on the way or how things mean what they mean and I just wonder how that communication is different to sitting and talking to them (students).

Another member of staff noted:

R23: We think far more in the terms in the way in which we can produce environments for a diverse student body. In other words, our assessment strategies says we need to think about alternative ways of teaching and learning in assessment to make sure we offer a fair go at reaching learning outcomes we need to make sure that we try and address that. So you find within the School of Art and Design, we have, people will be thinking about course development, thinking about how things can be delivered and in what way and how things might be assessed, so one example would be, within my first level course for the first term, the virtual seminar assessed piece in place of a formal essay because students were just only beginning to learn how to write a formal academic essay, so doing a virtual seminar was the first step to do that.

I: How did you assess it?

R23: I asked them to do a self evaluation...to what extent have they developed ideas about critical thinking, question some of the content and contributions made by other students to ask questions about themselves and of others...they would then self-evaluate

Visual discussion boards were also used by practice staff to encourage formative assessment and feedback from staff and peers. Staff reported these boards housing student work in progress, visual idea development and online storyboarding, for example.

VLEs were also used frequently used to support formative or summative assessment in a number of different ways:

R15: we have used it in a supportive role for formative assessment such as frequently asked questions, do you understand the brief, for getting feedback from students. You can get feedback in different ways and one of the things we did was ask them to upload some digital stuff in the first year and they loaded up Powerpoint which were too big in size...so that flagged up that they didn’t know... so we had to go back to go over that... We’ve set up discussion boards for students who are doing the same essay question – and show exemplars in different areas so that students know what is expected.

In some cases, practical work was also submitted online because of the nature of a C&IT project, for example, designing a web site, which can be submitted electronically. As one member of staff summarised
‘I’m not exactly using technology to assess work, I’m assessing work that has been made by the technology.’ Staff pointed out however, that while this was an appropriate and positive development, it raised quality assurance issues and problems of software compatibility for staff/student computers. So while in theory, it was positive, it did not always work in practice:

R9: I think the students get the better half of the deal and that’s how it should be but it would be nice if staff had the same...a new G4...that’s great cos now I can work cross platform. So before I didn’t have Illustrator, I didn’t have Photoshop for assessment... I couldn’t take the disc and assess it – so I had to borrow someone else’s computer. The difficulty we have then is if a student’s disc is corrupted...how do we know they didn’t know it was corrupted and they just hadn’t done the work...we also want to see hard copy of the work.

This section has identified a number of ways in which C&IT development is increasingly impacting on delivery, curriculum design and assessment. While there is clearly room for more Art and Design staff to engage with C&IT, there are numerous examples of good practice. The sharing and dissemination of these needs to be co-ordinated more through the setting up of discussion groups and other initiatives.

Examples of good staff development practice

The following section proposes a number of more over-arching issues that could inform a staff development strategy in relation to C&IT. To support this, examples of good and relevant practice gleaned from interviews will be provided briefly and should be taken into consideration.

Relationship between staff development and Institution and School/Faculty Strategy

Any staff development in relation to C&IT needs to situate itself firmly in relation to the learning and teaching strategy of an institution and all its different parts. While generic strategies are in place, the implementation of these at school/faculty level was often less clear:

R13: I suppose it (staff development) is dependent on the strength of the L&T strategies and how they are implemented down the line. I think at a generic level they are working quite well, so for instance if the institution decides it is going to train all its staff, then there is a three line whip... There does seems to be, I suspect it kind of peters out...that the kind of cascading of the
strategy is not always very clear so at staff level there’s not a lot of clarity about what an L&T strategy is and how that’s related to staff development.

At the same time, a strategy needs to be more than a top-down model:

R23: Something that actually enables staff to innovate, something that push staff in having to use x and y. Some form of staff development model that will enable innovation, enable and allow members of staff to take risks...they’ve got too many other pressures on, there’s no time to take risks. And a model which lets them take a risk...which innovates...which informs the policy in a bottom-way-up rather than top-down.

In this way, a successful staff development strategy needs to be able to support learning and teaching in a number of different ways and situations such that it can support a more experimental learning cycle, as well as responding to external initiatives. This can be illustrated in figure 15. Kolb et al., (1974) model provides a useful reminder of how learning occurs, in particular the stage of active experimentation, which many staff do not currently feel is available to them within existing structures and time constrain.

![Experimental Cycle of Learning](image)

Concrete experience
(planned or accidental)

Active experimentation
(trying out the learning in other, similar, situations: creativity, decision-significance) making and problem-solving)

Reflective Observation
(actively thinking about the experience, its basic issues, and their

Abstract conceptualisation
(generalising from reflections, analysing, in order to develop a body of ideas, theory or principles which can then be applied to other, similar problems or situations, thus leading to more successful behaviour in those situations)

Figure 15: The experimental cycle of learning based on Kolb, Rubin and McIntyre, 1974 cited in Harrison (2000: 239)

‘Bottom-up’ needs are identified through a process of reflection on one’s learning and teaching, traditionally and formally presented at the annual staff appraisal or annual course/programme report. While these longer-term reviews are clearly important, our interviews revealed different reflection processes at work as a way of identifying and
motivating staff to develop their skills and/or pedagogic understanding.

Cowan (1999) proposes a finer-tuned model of reflection, which may be useful to consider in this context because ‘it has been my experience that it is through purposeful and conscious reflection that much personal and professional development has occurred for me, and my students’ (Cowan, 1999 cited in Baume, 1999: 16). In other words, it is reflection, which turns experience into learning. Cowan identifies three types of reflection, all of which have implications for how a strategy might develop and respond:

I reflect, then, when I ask myself questions – about what is happening at the moment (reflection-in-action), what has just been completed (reflection-on-action) and what lies immediately ahead (reflection-for-action) (Cowan, 1999 cited in Baume, 1999: 16).

These three inter-related types of reflection produce different kinds of development and support needs which have been reflected in our interviews and statistical analysis:

1 Needs identified from reflection-in-action require ‘just in time’ support. For example, many staff reported consulting other colleagues when they needed help with C&IT learning and teaching because it was near at hand and they were familiar with the software and issues concerned (see figure 12). Other forms of support are central support units, which may respond to queries over the phone or come out to staff, and tend to be concerned with central communication technologies such as e-mail and the internet. Specialist institutions also seemed to offer significant discipline specific online tutorial support which staff reported finding useful:

R9: We can access all tutorials on the intranet from the Library here and you can access all software programmes and it actually takes you step by step and I’ve certainly used that when I’ve said ‘I’ve really got to sort this out!’

2 Needs identified from reflection-on-action can also require the kind of support outlined above, but the support is likely to be somewhat more planned inside or outside the institution. Triggers for this kind of development can include, as noted elsewhere, the need to update generic or discipline specific software skills, or adding something new to a VLE in response to student feedback during a module. To this end, one
institution offered technical and pedagogic support regularly on a weekly basis—thus meeting short and longer term needs:

R15: Yes, we are lucky because we are so large we have an IT Support Unit and over there, there’s a full time post supporting staff who use BB and provide training and we have a 0.5 staff development person—so there is technical and pedagogic support. We are very flexible... I mean every Thursday morning is open access for training...people can sign up and come along or the trainers will come out and work with small groups or even one to one.

This goes some way to resolving Academic/Support staff attending evening classes in their own personal time.

3 As Cowan writes of the process of reflection-for-action:

Reflection-for-action then, takes me through my analytical and evaluative reflections and prompts me to add some things to my shopping list for my personal and professional development, and to set others aside as being ‘Adequate for the moment at least’ (Cowan, 1999 cited in Baume, 1999: 27).

Many of these longer-term needs are identified through staff appraisal and as part of research bids made by staff. Reflection on learning and teaching clearly provide opportunities for identifying significant staff development needs, as does research in staff’s views:

R9: I think research is actually the key to this and encouraging staff to do their own research and tailoring their staff development needs to research and I think rather than a member of staff saying I’ve got to do a Photoshop thing, they actually say I need to do that in order to enable me to do my research...it becomes core rather than something you are expected to do...So we have a professor of research but she’s not linked to the CPD process—so we’ve got lots of things that could be linked together to be really useful in this process.

There are however differing views among staff:

R21: Interesting thing is that I have grave doubts as to whether research has anything to do with teaching and learning...I think people engage in their research and I don’t think they bring that very often into teaching. There’s a very good article by Roger Brown...it’s a real diatribe about this...I think it’s variable.

The remit of this project does not include this debate, but there is scope for investigating it further. What is clear is that an institutional or school/faculty staff development strategy needs to be woven into its other strategies.
Similarly, any Enterprise or Third Mission strategy needs to also be tied into the CPD process, as this is also a means by which staff update and develop skills:

R4: I am doing a consultancy with an organisation linked to...their staff are coming to talk to me and I’m having to look at each tool in turn, the latest version of that tool, and I was keen to do that cos it helps me maintain a skills base. So I think without a project or some research base of some sort, the skills base would be static.

Short industrial placements (with grant funding) also provided staff with opportunities to update and develop their skills in a professional environment. In addition to this, staff development monies are available to those members of staff who wish to progress their C&IT skills:

R5: I have a budget for staff development in the division and any member of staff including technician staff...fill in a form and give justification. I haven’t turned anyone down...I’m sending two technicians to London for a certain software.

As discussed earlier, the focus on developing a two-stage VLE strategy and a commitment to exploring the pedagogic potential, has led institutions to adopt a variety of models:

- Adopting a flexible approach in identifying the appropriateness of VLE to different disciplines/subjects
- The delivery of a programme of pedagogically-led and skill-led workshops– specifically for Art and Design preferably
- A technical support unit and a pedagogic support unit for the application of C&IT
- A regular meeting of academics across the faculty/school to identify L&T training needs including C&IT
- Appointment of an e-learning co-ordinator or champion with remission
- Financial and technical support for pilot projects through innovation project funds. Making the most of VLE for example is expensive in terms of staff investment of time and costs. If the support is there, such schemes as the granting of innovation funds were promising examples of ways in which teaching could be replaced. These are already in place in many institutions but in the large universities (non-specialist) are often granted to those projects, which are deemed to benefit the whole institution, rather than a particular programme or faculty such as Art and Design. Given the specificity of Art and Design, this often means that the funds are directed to text-based disciplines.
There were a few exceptions to this, where it was acknowledged that an innovative project was worthy of support in and of itself regardless of whether it could trickle down to text-based courses.

- These can also be collaborative projects between institutions and be research based.
- Sharing good practice at institutional level and beyond.
- All new full time staff are required to study (with remission) for a Certificate of Higher Education or equivalent which includes exploring the pedagogic possibilities of a VLE, using a VLE as a means of communication while on the course, and also designing a VLE for a teaching situation.
- Part-time staff (above a certain number of hours) are paid to undertake a short course, which addresses general pedagogic issues in relation to C&IT.

Staff Development Delivery and Design of Courses

Cowan (1999) argues that the process of reflection is to do with asking ourselves questions (Cowan, 1999 cited in Baume, 1999: 16) and in this context, staff need to not only ask themselves what is motivating them to take up staff development and how they can get the most out of it, but those delivering courses also need to reflect on the way that they can ‘reach’ Art and Design staff most appropriately. Interviewees identified the way courses were organised and delivered as being crucial to the opportunities they opened up for staff to learn in a meaningful and motivated manner:

R4: Courses need to be delivered by people who can motivate the individual so that they will enjoy going to the workshop and consider the potential use of the tool in their future activity…the person delivering the course could point out how this could relate to their activities, so it makes more sense, it inspires cos they can think about…how can I make it work for me and what are the advantages.

Or as in the case of some VLE training:

R3: Blackboard training was not about the aesthetics, so I was put off by it. If the training was presented creatively – not only how to put up a standard module but also how we could personalise it, we could produce something beautiful and that worked well.

As noted earlier, central to these workshops being successful is the opportunity to experiment and take risks, often with other colleagues:
R9: so there were three of us working on it and one of our technicians and it was just a completely different atmosphere...like being a student, having time to experiment and make mistakes and have the time to explore which I don’t think you get if you are doing an intranet tutorial...and you were immediately able to use each others images and look at things from a different perspective...and it was a really creative atmosphere to work in.

Thus the staff development workshop becomes more of a heuristic activity involving creativity, intellect and motivation, rather than an algorithmic one that presents a well-defined route to reach a well-defined task. As one Head of a Staff Development Unit said, ‘It’s not a training programme, so much as a development programme and once you realise that, that’s half the battle.’ This was also stressed by another member of the Academic/Support staff who suggested to engender a culture of interests in staff development by presenting it as beneficial to individual members of staff:

R12: advertising staff development for common good or all pile into a lecture theatre for a day and get lectured to – is never something people want to go to – I think you have to make staff development an attractive bite-size activity, maybe have shorter sessions, - lecture theatre one day – very few people last the whole day, they’ll go home at lunch time – that doesn’t work – it is run like that here – it’s always difficult – to have bite size pieces and to advertise it in a way that staff see this is really does benefit them and increases their knowledge and possibly their ability to cope with their jobs.

Resources

Any strategy, which encompasses staff development, needs to realistically situate itself within existing resources and realities and propose how these will be developed and supported. The majority of staff in both specialist and non-specialist institutions noted the irony of not having access to a powerful enough computer or up-to-date/appropriate software in order to apply any C&IT development that they may undertake or develop their learning and teaching approaches significantly. In addition to this as noted previously, the PC – Apple Macintosh debate continues to blight and limit much staff development and new initiatives in many institutions, as one interviewee remarked: ‘The courses are delivered centrally on PC but then I work with a Mac in the office, so it makes it much more difficult.’ In addition to this, as more modules are placed on a VLE, this in turn creates a greater need for technical support and maintenance:

R24: Then when you move to a VLE, Blackboard, then it becomes a bit more interesting because in terms of its availability across the institution but it also becomes a lot more clunkier and therefore less reliable at the moment and
whereas with e-mail, you can guarantee some kind of effectiveness and efficiency with it. Currently BB and Web CT do suffer from some of the infrastructural problems – they need high maintenance and the technology is not as smooth as it could be, and of course the higher up you go with the complexity, the more difficult it is to use it at home.

**Continuous Professional Development (CPD)**

As noted in the literature review, external interests are requiring that CPD in Higher Education should be evidenced and standardised much more. The recent formed HE Academy represents one significant development in moving towards a programme structure of continued and accredited staff development.

Several institutions, as indicated elsewhere, already have accredited HE Teaching Schemes for new staff and this can begin to change the overall culture and attitude within a faculty/school:

**R15:** I would like to see every member of staff credited to a certain level of IT skill... I know it sounds a bit heavy handed but I think the days of being able to avoid it are fast going... in a way it’s just part of being a professional that you have basic IT skills and that you offer staff incentives. And I think to give people accreditation or even a remuneration or some sort of remission – so there’s an acceptance that things take time. You don’t learn IT by going to a training session...you learn by going away and applying it. I’d really like to see the same kind of initiatives in HE as they have going on in schools like the laptop for teachers scheme.

Clearly, accrediting all new staff leads to significant attitudinal changes as one head of staff development noted: ‘We have new staff who know no different and they actually appreciate what we do.’ So, like the acquisition and familiarity with C&IT, there is the possibility of a new culture arising as more new staff enter HE. However, while there is also mounting government and institutional pressure for existing staff to undertake accredited staff development, it is debatable, as several academic staff pointed out, whether this kind of extrinsic demand will enhance intrinsic motivation.

In relation to existing staff, an e-learning champion remarked:

**R19:** My preference would be that those people who volunteer should have their volunteering recognised with accreditation. I don’t think it works to force people to do it. I mean there are all sorts of issues about C&IT in people’s lives generally and you have to be comfortable with technology to use it effectively...I think you make the environment such that they are encouraged in that area – a little push – like every module will have a web presence – at least they have to consider it.
Conclusion

Although there is a spread of opportunities available within various higher education institutions, time has been identified as one of the major barriers. Survey findings and discussion with Academic/Support staff also identified generation differences, the lack of support available for Apple Macintoshes and the attitude of institutions towards staff development in relation to C&IT in Art and Design as barriers. As a result, staff tended to update their C&IT skills outside of institution or independently as many staff invested in their own computer equipment at home.

In addition to the findings presented and the spread of opportunities already available across the sector, questionnaire responses and interviews raised some of the following considerations that might make for a successful staff development strategy for C&IT in Art and Design:

- Making the most of VLE for example is expensive in terms of staff investment of time and costs. If the support is there, such schemes as the granting of innovation funds were promising examples of ways in which teaching could be replaced. These are already in place in many institutions but in the large non-specialist establishments are often granted to those projects, which are deemed to benefit the whole institution rather than a particular programme or faculty such as Art and Design. Given the specificity of Art and Design, this often means that the funds are directed to text-based disciplines. There were a few exceptions to this, where it was acknowledged that an innovative project was worthy of support in and of itself regardless of whether it could trickle down to text-based courses.

- While a planned and longer term strategy may be in place, it is important to have a more evolutionary or flexible element that caters for more instant and specific support for Art and Design. The introduction of such things as Technology Days or afternoons and a central support team who are willing to visit staff on request were seen as very positive moves in this direction. Furthermore, it encouraged staff to take more risks and not worry about making mistakes.

- Training should be heuristic in nature, i.e. one that is driven by motivation, creativity and intellect rather than the more generic
algorithmic approach, which takes a well-defined route or set of steps to get a well-defined task completed.

- The current emphasis on Continuous Professional Development and the notion of the reflective practitioner and how that is evidenced raises the issue of whether staff development in C&IT should be accredited. Several institutions already insist that new staff undertake some form of teaching certificate, which includes using and designing VLEs.

From the questionnaires and interviews, it would seem that developing the skills and opportunities for staff to reflect on their practice is a vital part of any staff development strategy – and at its best, clearly influences the pedagogic issues of delivery, curriculum design and assessment. However, while there is mounting government and institutional pressure for staff to take this up, it is also debatable, as several academic staff pointed out, whether this kind of extrinsic demand will enhance intrinsic motivation.

**Evaluation**

The main aim of the project was to discover how staff in Art and Design are supported in their development of the use of C&IT and how that impacts on curriculum development and accompanying learning, teaching and assessment strategies. The project also aimed to map staff development in C&IT within the Art and Design community by analysing the effectiveness of C&IT development in terms of specificity of development offered, relevance to the Art and Design curricula and spread of opportunities across HEIs by investigating the perceptions and experience of staff.

Survey findings showed that the majority of staff claimed that there was a staff development strategy in relation to C&IT at institutional level and school/faculty level. However, at an institutional level, specialist institutions held more discipline specific workshops. Academic/Support staff updated their skills as it supports their teaching and their research interests, but tended to update skills independently outside of the institution. Although there is a spread of opportunities available within various higher education institutions, the amount of time spent on non-teaching activities, such as the administration of courses was identified as barriers in staff attending courses in order to update their skills. Academic/Teaching staff that
were interviewed also stated that they tended to update their C&IT skills as soon as they had invested in equipment.

There is evidence to suggest that staff are implementing knowledge in their teaching and delivery, curriculum design and assessment. As indicated during the interviews with staff, there is clearly increasing use made of C&IT at both a discipline and generic level across the sector to aid learning and teaching. The impact of C&IT on learning and teaching has affected the way in which staff deliver their programmes of study, for example, teachers have integrated VLE systems due to the diverse student body. Furthermore, the way in which staff maintain contact with students has also changed as e-mail and SMS text messaging are increasingly being used.

The use of a Managed or Virtual Learning Environment was increasingly used, although many staff do not make use of it. However, they did acknowledge that VLEs could be useful. Both non-specialist and specialist institutions had well developed implementation schemes consisting of two strategies. Some modules were made available on-line to students and from our survey, most institutions are at this first stage of development. The report outlined a number of different examples of good practice. Examples of good practice included customising pages in a more creative and aesthetically appropriate manner for the sector, providing exemplars of previous student project work, interactive garment cutting tutorials and providing links and information on resources. Virtual Base Rooms or Discussion Boards were also set up, which allowed students to meet regularly with staff and/or each other. In addition, programmes such as Flash or PowerPoint allowed staff to compile, manage and update briefings and lectures much more easily than before as well as presenting material in a professional manner. The emergence of C&IT as a central component of many Art and Design programmes has led to the demise of the studio. However, the consequences of this continue to be debated and contested at institutional and school/faculty level.

As noted, industry tends to drive the introduction and development of new courses. Thus C&IT has a significant impact on curriculum design. As a result of this, some staff undertook industrial placements to enhance their C&IT skills. This demonstrates the fact that the creative industries draw very significantly on C&IT in order to do their business. Therefore, new developments and professional skills inform what an Art or Design curriculum might contain as the industry can drive the introduction and development of new courses, as well as impact on existing curricula themselves. It is therefore crucial that staff are
aware of these developments and are able to teach the discipline specific skills and abilities. Findings also showed that staff’s own research also influenced curricula content on a more informal basis, although this was very much dependent on financial resources and to some extent the staff structures that are in place.

In relation to VLEs, staff reported that by making their course material more accessible to students, left more time to concepts and debates in more depth.

In terms of assessment, students have access to online tutoring as well as discussion boards. Online tutoring enables staff to detect plagiarism in student work, whereas discussion boards encourage formative feedback from staff and peers. Staff that held fluent generic C&IT skills as well as particular VLE skills allowed them to diversify the ways formative assessment was made and given to students. In some cases, practical work was also submitted online because of the nature of a C&IT project such as designing a web site, which can be submitted electronically. However, staff claimed that while this was an appropriate and positive development, it raised quality assurance issues and problems of software compatibility for staff/student computers.

The report identified the need for any staff development strategy to be firmly integrated into other institutional strategies. It listed a number of promising initiatives and support mechanisms at an institutional level. However, the report also highlights the need for an innovative model that acknowledges a ‘bottom-up’ approach based on risk-taking and experimentation. In addition to this, three different types of reflection, as identified by Cowan (1999) provide a framework for consideration, which may or may not be formalised within staff CPD appraisal or programme reporting systems.

Finally, undertaking this research also highlighted the general perceptions of staff towards such issues as a lack of institutional recognition for Art and Design, lack of resources and time made available for such C&IT development. However, in spite of this, not only are there many examples of good practice and initiatives, but also staff’s commitment to their learning and teaching was very evident.
References


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CADE (2001) *Digital Creativity: Crossing the Border*, CADE Conference


Appendix 1: Questionnaire to Academic/Support Staff

To complete the form please tick appropriate boxes or write where appropriate:

NAME:

INSTITUTION: TEL:

POSITION:
1. Do you have a staff development strategy in relation to Communication and Information Technology (C&IT) at an institutional level? (Please tick)
   - Yes □
   - No □
   - Don’t know □

2. Does your School/Faculty of Art and Design have a specific staff development strategy in relation to C&IT? (Please tick)
   - Yes □
   - No □
   - Don’t know □

3. Do you have a Virtual Learning Environment (VLE) or Managed Learning Environment (MLE) in place within your institution? (Please tick)
   - VLE  Yes □
   - No □
   - Don’t know □
   - MLE  Yes □
   - No □
   - Don’t know □

   If answered yes to VLE, please state which software is used (e.g. Blackboard)

4. Do you use a VLE or MLE as part of your teaching and delivery? (Please tick)
   - VLE  Yes □
   - No □
   - MLE  Yes □
   - No □

5. Does your School/Faculty of Art and Design have technical demonstrators to deliver C&IT training to students? (Please tick)
   - Yes □
   - Some □
   - No □
   - Don’t Know □

6. Does your School/Faculty of Art and Design offer its own staff development in C&IT? (Please tick)
   - Yes □
   - No □
   - Don’t Know □
7 In relation to C&IT, the Institution provides training in the following areas (*Please tick as many boxes as appropriate*)

- [ ] E-mail
- [ ] Powerpoint
- [ ] Microsoft Office
- [ ] Internet
- [ ] VLE e.g. Blackboard
- [ ] MLE
- [ ] On-line assessment packages
- [ ] Quark
- [ ] Photoshop
- [ ] Illustrator
- [ ] Flash
- [ ] Director
- [ ] Premier
- [ ] Filmwriter
- [ ] CAD
- [ ] Stitch
- [ ] Dreamweaver
- [ ] Video conferencing
- [ ] Other (please indicate)

8 In relation to C&IT, the Faculty/School of Art and Design provides training in the following areas (*Please tick as many as appropriate*)

- [ ] E-mail
- [ ] Powerpoint
- [ ] Microsoft Office
- [ ] Internet
- [ ] VLE e.g. Blackboard
- [ ] MLE
- [ ] On-line assessment packages
- [ ] Quark
- [ ] Photoshop
- [ ] Illustrator
- [ ] Flash
- [ ] Director
- [ ] Premier
- [ ] Filmwriter
- [ ] CAD
- [ ] Stitch
- [ ] Dreamweaver
- [ ] Video conferencing
- [ ] Other (please indicate)
9 Please state what method is used by your School/Faculty/Department to identify the training needs of Academic staff in C&IT (Please tick as many boxes as appropriate)

- Staff Development and Review Process
- Annual Course Monitoring
- Through the Course/Programme Leader
- Staff survey
- By the institutional strategy
- Informally
- Other (please indicate)

10 What form of communication is used to publicise training (Please tick as many boxes as appropriate)

- E-mail
- Online
- Posters/newsletter
- Informally
- Other (please indicate)

11 I take up these opportunities of staff development in C&IT as it (Please tick)

- Supports and develops my teaching, curriculum design and assessment
- Supports and develops my research interests and/or own practice
- I am required to attend a certain percentage of events
- In order to deliver commercial courses or undertake consultative work
- Other (please indicate)

12 What are the reasons for not taking up these staff development opportunities? (Please tick)

- Already have these skills
- Not important to my discipline/subject
- Not enough time
Not seen as important to teaching and other activities
Lack of information
Insufficient access to computers
Dislike using computers
Other (please indicate)

If you do not take up or have access to much staff development in C&IT, how do you develop your skills in this area? (Please tick)

Trial and error in my own time
Trial and error as part of research and other academic activities
C&IT tutorials
External courses outside the institution
With colleagues
Computer skills are not central to the teaching of my subject
I don’t
Other (please indicate)

How would you rate your School/Faculty provision and maintenance of computer/software resources? (Please tick)

Very good □  Good □  Quite good □  Poor □

How could they be improved? (Please tick as many boxes as appropriate)

More financial support
Inter-operability and support at an institutional level for PC and Apple MACS
More skilled staff to train
More skilled staff to support
Other (please indicate)

ADDITIONAL QUESTIONS
1. Please indicate below any other problems or barriers to staff development that you feel that there may be within the institution/ School/ Faculty.

2. Please indicate below how you feel that this can be improved.

3. Would you like to receive a brief summary of results of this research project?

Thank you for taking the time to complete this questionnaire

Appendix 2: Questionnaire to Heads of School/Faculty

To complete the form on-line, please tick appropriate boxes or type in the grey shaded boxes.

NAME:

INSTITUTION: TEL:

POSITION:

1. Do you have a staff development strategy in relation to Communication and Information Technology (C&IT) at an institutional level? (Please tick)
   Yes □  No □  Don’t Know □

2. Does your School/Faculty of Art and Design have a specific staff development strategy in relation to C&IT? (Please tick)
   Yes □  No □  Don’t Know □
7. Do you have a Virtual Learning Environment (VLE) or Managed Learning Environment (MLE) in place within your institution? (Please tick)

- VLE: Yes ☐ No ☐
- MLE: Yes ☐ No ☐

If answered yes to VLE, please state which software is used (e.g. Blackboard)

4. In relation to C&IT, the Institution provides training in the following areas (Please tick as many as appropriate)

- E-mail
- Powerpoint
- Microsoft Office
- Internet
- VLE e.g. Blackboard
- MLE
- On-line assessment
- Flash
- Director
- Premier
- Filmwriter
- CAD
- Stitch
- Dreamweaver
- Video conferencing
- Other (please indicate)

- Quark
- Photoshop
- Illustrator
5 In relation to C&IT, the School/Faculty of Art and Design provides training in the following areas (Please tick as many as appropriate)

- [ ] E-mail
- [ ] Powerpoint
- [ ] Microsoft Office
- [ ] Internet
- [ ] VLE e.g. Blackboard
- [ ] MLE
- [ ] On-line assessment packages
- [ ] Director
- [ ] Premier
- [ ] Filmwriter
- [ ] CAD
- [ ] Stitch
- [ ] Dreamweaver
- [ ] Video conferencing
- [ ] Other (please indicate)
- [ ] Illustrator

6 Do you have technical demonstrators to deliver C&IT training to students? (Please tick)

- [ ] Yes
- [ ] Some
- [ ] No
- [ ] Don’t Know

7 How do you identify academic and technical staff training needs? (Please tick as many as appropriate)

- [ ] Staff Development and Review Process
- [ ] Annual Course Monitoring
- [ ] Through the Course/Programme Leader
- [ ] Staff survey
- [ ] By the institutional strategy
- [ ] Informally
- [ ] Other (please indicate)

8 What form of communication is used to publicise C&IT training? (Please tick as many as appropriate)

- [ ] E-mail
- [ ] Online
- [ ] Posters/newsletter
- [ ] Informally
- [ ] Other (please indicate)
9 What percentage of Art and Design staff take up staff development opportunities in C&IT? (Please tick)

- [ ] 0-10%
- [ ] 10-20%
- [ ] 20-30%
- [ ] 30-40%
- [ ] 40-50%
- [ ] 50-60%
- [ ] 60-70%
- [ ] 70-80%
- [ ] 80-90%
- [ ] 90-100%

10 What percentage of staff across the Institution takes up staff development opportunities in C&IT? (Please tick)

- [ ] 0-10%
- [ ] 10-20%
- [ ] 20-30%
- [ ] 30-40%
- [ ] 40-50%
- [ ] 50-60%
- [ ] 60-70%
- [ ] 70-80%
- [ ] 80-90%
- [ ] 90-100%

11 Staff in Art and Design take up staff development opportunities in C&IT as it (Please tick)

- [ ] Supports and develops their teaching
- [ ] Supports and develops their research interests and own practice
- [ ] Is required that they attend a certain percentage of events
- [ ] Supports the delivery of commercial or consultative work
- [ ] Other (please indicate)

12 What do you perceive to be the problem with low take-up of these opportunities by Art and Design staff, if any? (Please tick)

- [ ] Already have these skills
- [ ] Not enough time
- [ ] Not seen as important to teaching and other activities
- [ ] Lack of information
- [ ] Insufficient access to computers
- [ ] Dislike using computers
- [ ] Other (please indicate)
13 How would you rate your Institutional provision and maintenance of computer/software resources? *(Please tick)*

- Very good □
- Good □
- Quite good □
- Poor □

14 How could they be improved? *(Please tick)*

- More financial support
- Inter-operability and support at an institutional level for PC and Apple MACS
- More skilled staff to train
- More skilled staff to support
- Other (please indicate)

15 How would you rate your School/Faculty provision and maintenance of computer/software resources? *(Please tick)*

- Very good □
- Good □
- Quite good □
- Poor □

16 How could they be improved? *(Please tick)*

- More financial support
- Inter-operability and support at an institutional level for PC and Apple MACS
- More skilled staff to train
- More skilled staff to support
- Other (please indicate)

**ADDITIONAL QUESTIONS**

1. Please indicate below any other problems or barriers to staff development that you feel that there may be within the institution/ School/ Faculty.
4. Please indicate below how you feel that this can be improved.

5. Would you like to receive a brief summary of results of this research project?

Thank you for taking the time to complete this questionnaire

Appendix 3: Questionnaire to Staff Development Units

To complete the form on-line, please tick appropriate boxes or type in the grey shaded boxes.

NAME:

INSTITUTION: TEL:

POSITION:

1. Do you have a staff development strategy in relation to Communication and Information Technology (C&IT) at an institutional level? *(Please tick)*
   
   Yes ☐ No ☐ Don’t Know ☐

2. Does your School/Faculty of Art and Design have a staff development strategy in relation to C&IT and the? *(Please tick)*
   
   Yes ☐ No ☐ Don’t Know ☐
3. Do you have a Virtual Learning Environment (VLE) or Managed Learning Environment (MLE) in place within your institution? *(Please tick)*

- VLE: Yes ☐  No ☐  Don’t Know ☐
- MLE: Yes ☐  No ☐  Don’t Know ☐

If answered yes to VLE, please state which software is used (e.g. Blackboard)

4. Does your School/Faculty of Art and Design have technical demonstrators to deliver C&IT training to students?

- Yes ☐  Some ☐  No ☐  Don’t know ☐

5. Does your School/Faculty of Art and Design offer its own staff development in C&IT? *(Please tick)*

- Yes ☐  No ☐  Don’t know ☐

6. In relation to C&IT, the Institution provides training in the following areas *(Please tick as many as appropriate)*

- E-mail ☐  Flash ☐
- PowerPoint ☐  Director ☐
- Microsoft Office ☐  Premier ☐
- Internet ☐  Filmwriter ☐
- VLE e.g. Blackboard ☐  CAD ☐
- MLE ☐  Stitch ☐
- On-line assessment ☐  Dreamweaver ☐
- Video conferencing ☐
- Other (please indicate) ☐
- Quark ☐
- Photoshop ☐
- Illustrator ☐

7. In relation to C&IT, the School/Faculty of Art and Design provides training in the following areas *(Please tick as many as appropriate)*
E-mail
Powerpoint
Microsoft Office
Internet
VLE e.g. Blackboard
MLE
On-line assessment

packages
Quark
Photoshop
Illustrator

Flash
Director
Premier
Filmwriter
CAD
Stitch
Dreamweaver
Video conferencing
Other (please indicate)
8 At an Institutional level, how do you identify academic and technical staff training needs? *(Please tick as many as appropriate)*

- Staff Development and Review Process
- Annual Course Monitoring
- Through the Course/Programme Leader
- Staff survey
- By the institutional strategy
- Other (please indicate)

9 How does the School/Faculty of Art and Design identify Academic/Support staff training needs? *(Please tick as many as appropriate)*

- Staff Development and Review Process
- Annual Course Monitoring
- Through the Course/Programme Leader
- Staff survey
- By the institutional strategy
- Other (please indicate)

10 What form of communication is used to publicise C&IT training? *(Please tick as many as appropriate)*

- E-mail
- Online
- Posters/newsletter
- Informally/ word of mouth
- Other (please indicate)

11 What form of communication does the School/Faculty of Art and Design use to publicise C&IT training?

- E-mail
- Online
- Posters/newsletter
- Informally/ word of mouth
- Other (please indicate)
12 What percentage of staff across the Institution takes up staff development opportunities in C&IT? (Please tick)

- 0-10%
- 10-20%
- 20-30%
- 30-40%
- 40-50%
- 50-60%
- 60-70%
- 70-80%
- 80-90%
- 90-100%

13 What percentage of Art and Design staff take up staff development opportunities in C&IT? (Please tick)

- 0-10%
- 10-20%
- 20-30%
- 30-40%
- 40-50%
- 50-60%
- 60-70%
- 70-80%
- 80-90%
- 90-100%

14 Staff in Art and Design take up staff development opportunities in C&IT that are provided by the Institution as it (Please tick)

- Supports and develops their teaching
- Supports and develops their research interests and own practice
- Is required to that they attend a certain percentage of events
- Supports the delivery of commercial or consultative work
- Other (please indicate)

15 Staff in Art and Design take up staff development opportunities in C&IT that are provided by the School/Faculty of Art and Design as it (Please tick)

- Supports and develops their teaching
- Supports and develops their research interests and own practice
- Is required to that they attend a certain percentage of events
- Supports the delivery of commercial or consultative work
Other (please indicate)

16. What do you perceive to be the problem with Art and Design staff take-up of these opportunities, if any? (Please tick)

- Not enough time
- Not seen as important to teaching and other activities
- Lack of information
- Insufficient access to computers
- Dislike of using computers
- Other (please indicate)

17. How would you rate your Institutional provision and maintenance of computer/software resources? (Please tick)

- Very good
- Good
- Quite good
- Poor

18. How could they be improved at an Institutional level? (Please tick)

- More financial support
- Inter-operability and support at an institutional level for PC and Apple MACS
- More skilled staff to train
- More skilled staff to support
- Other (please indicate)

19. How would you rate the School/Faculty of Art and Design provision and maintenance of computer/software resources?

- Very good
- Good
- Quite good
- Poor

20. How could they be improved at a School/Faculty level? (Please tick)

- More financial support
- Inter-operability and support at an institutional level for PC and Apple MACS
More skilled staff to train
- More skilled staff to support
- Other (please indicate)

ADDITIONAL QUESTIONS

1. Please indicate below any other problems or barriers to staff development that you feel that there may be within the institution/ School/ Faculty.

2. Please indicate below how you feel that this can be improved.

3. Would you like to receive a brief summary of results of this research project?

Thank you for taking the time to complete this questionnaire

Appendix 4: Academic/Support staff Interview Schedule

1. Can you briefly tell me about yourself and your teaching career in terms of your engagement with new technology? (Typical teaching commitment and areas?)

2. In terms of the subject and what you teach, how important is it for you to update your computer skills:
   a. Generic (Blackboard, Internet, e-mail etc)
   b. Discipline specific
   c. Why?

   (How have you seen the sector change/ subject change?)
   (Has a teaching and learning opportunity come first or vice-versa?)

3. Do you think it is essential for academic staff to be fluent and confident with current C&IT software?
4. How have you developed these skills? (Motivation/incentives to learn)
   a. Does your institution have a staff development strategy?
   b. Self taught/trial and error
   c. Own research
   d. Colleague

5. Please describe what C&IT development opportunities you have undertaken recently?
   • What were you aware of having learnt from this development?
   • Was the development offered appropriate for your needs as a teacher in your subject?
   • If anything, what is good about the way you require these skills at present?

6. Can you tell me about your institution’s (faculty/school’s) attitude and support for staff training in C&IT?
   • In your opinion, what are the problems for you personally, your subject and department in what you are currently being offered?

7. Has your interest/development in C&IT impacted on your teaching/delivery in terms of curriculum content?
   a. Example of teaching and delivery (Quark, Blackboard, Dreamweaver etc)
   b. Example of curriculum design (is it more market driven?)
   c. Example of assessment

7b. Has your interest/development in C&IT impacted on administrative support? (Email, PowerPoint, Internet etc)

8. Can you think of any suggestions that would improve a staff development strategy in this area? Institutional/ School/faculty
a. More community/consultation?
b. Collaborative with other institutions?
c. Specific around learning and teaching institutions
d. Sharing good practice and time?
e. Financial support?

- Is there anything that would help you embed your C&IT training more in relation to your teaching activities?

Appendix 5: Staff Development Unit Interview Schedule
1. Could you briefly tell me about yourself and how you got involved in staff development/continuing professional development?

2. How much of an impact is C&IT having in the arena of higher education?

3. In terms of computer skills, how important do you think it is for staff to update their skills in the higher education sector?
   - Generic (Internet, e-mail, Blackboard)
   - Discipline specific

4. Do you think it is essential for academic staff in Art and Design to be fluent and confident with current C&IT software?

5. Do you feel that staff’s interest/development in C&IT has impacted their
   - Teaching and delivery
   - Curriculum design
   - Assessment

6. How do you identify staff training needs?

7. What methods do you use to publicise training opportunities in C&IT? How effective is it?

8. How many members of teaching staff take up these opportunities?

9. Could you explain to me about the structure of this institution? (Policies in relation to staff development strategies)

10. What are relationships like between different departments and centrally?

11. What sort of opportunities do you offer at school/institutional level in relation to C&IT? (Generic & Discipline specific)

12. Could you think of any suggestions to improve a staff development strategy in this area?