To What Extent is the Internet an Appropriate Medium for Learning Through and About Contemporary Visual Art?

A Case Study Of The Digital Art Resource for Education (DARE) Project

Rebecca Sinker 2006

To What Extent is the Internet an Appropriate Medium for Learning Through and About Contemporary Visual Art? - A Case Study of the Digital Art Resource for Education (DARE)

Abstract

This research looks at the Internet in relation to art, where art is examined broadly as a cultural, social and economic activity and body of knowledge, and specifically as it features within art and design education at secondary school. It considers the way digital technology features in learning, particularly in the art and design context, examining if and how this relates to the uses made of digital technology - particularly the Internet - by contemporary art practitioners. Recognising a gap here, a web-based art resource (www.dareonline.org) has been devised, created and evaluated trying in some way to bridge this gap, both through its practical usage and - by raising questions in the mind of the user - manifested in the language of its construction. The problems and possibilities of access, communication, collaboration and diversity offered by the use of web-based technologies as demonstrated by a number of artists, set against a generally utilitarian and apparently uncritical view of these technologies offered by statutory education materials, frame this research.

The overarching research question, “To what extent is the Internet an appropriate medium for learning through and about contemporary visual art?” was in large part prompted by a consideration of these different perceptions and applications. If artists are using the hybrid and collaborative aspects of digital technology to critique conventional modes of production and exhibition, engaging with issues of identity, authorship and audience, why is most art and technology practice in education focussed solely on the acquisition of skills? In addition, with the Internet being used primarily as a research medium in formal learning, to what extent could an interactive Web resource also be a critical and creative space? These considerations have led to the development of the evaluative questions used to inform the key research question in this study.

The development and use of DARE forms a case study, examined by both ethnographic educational research methods and an art practice-based methodology. In combining qualitative research techniques, such as the semi-structured interview and observation, with art-practice-based methods such as the creative reflective journal, the researcher/maker employs a unique hybrid method to reflect on the creation of DARE, its evolution and use and its relationship to other applications of Web-based technology. Having developed, trialled and revised the resource, with the help of secondary school pupils, teachers and PGCE student teachers, conclusions relating to the design and use of DARE are drawn, including recognition of the successes and failures of the aims of the initial project.

Key issues and questions are identified to consider how the research question relates to secondary education. The key research findings suggest a number of recommendations, which the evaluation of DARE suggests are in fact interdependent, including the need for young people's creative visual and interpretive responses to be published diversifying the voices (authorship) for the Web's various audiences, highlighting the essential value of dialogue in relation to the form and uses of Web-based (and other) digital media, forming a key element in developing critical digital literacy. This should extend to an examination of the relationship between the digital and other forms of cultural production. Finally, the need for producers of Web-based art educational media to take account of and employ a range of design conventions and devices, as practiced by those net artists who are specifically interrogating the nature of the media and the ideas it can address or convey.

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To what Extent is the Internet an Appropriate Medium for Learning through and about Contemporary Visual Art? – A case study of the DARE project

Chapter 1. Introduction

This introduction will provide a broad overview of the context in which this research has developed. Beginning with the reasons for undertaking this study, I go on to clarify the relationship between the Digital Art Resource for Education (DARE) as a commissioned project and its development and field testing as the subject of this research. My own professional background, the DARE project itself and the fields in which I have been practising and researching are explained in section 1.2. In section 1.3 the partnership institutions are introduced in the context of their work in art education. This is further contextualised in 1.4 with a summary of recent development in art and design education, in Britain, since the introduction of the National Curriculum. Section 1.5 is a very brief overview of the methodologies employed in this study (to be examined later, in chapter 4). Finally, there is a summary of all the thesis chapters to come including where the research is making an original contribution to knowledge.

1.1 Reason for the enquiry – in summary.

I plan to examine current approaches to art education, to determine whether and to what extent digital technology can provide a model for teaching and learning though and about contemporary art. During the course of this thesis, argue that this resource should promote both creative participation and critical enquiry.

In recent years, a number of professionals have voiced concern that teachers and students are frequently not able to access the products and debates of contemporary art (Bancroft 1995, Hughes 1998, Burgess and Addison 2000). In addition it has been noted that current teaching approaches, framed by the National Curriculum, often fail to effectively engage with the critical and contextual aspects of contemporary art practices (Stanley 1996, Hollands 2000, Harland et al 2000). At the same time, there has been a government imperative to increase the use of new technologies in education across all subjects, with the aim of achieving 'IT literacy' for all pupils, training half a million

teachers and connecting all schools to the Internet by 2002 (Blair 1997). However, this push appears under–researched and at certain points ill–defined, often resulting in an uneven provision of merely basic skills and hardware, rather than being targeted to the particular needs of a subject or of individual teachers (Kenny 2000; Ofsted 2004). In addition to the uneven situation with regard to access and training, questions about the appropriate uses of the technology in education contexts (its strengths and weaknesses for different subjects, tasks, applications, user needs etc), how the different models of learning offered by the technology relate to what is occurring in practice, and the relationship between digital and non–digital work, all require more research.

While there have been proposals for making the curriculum more inclusive of culturally diverse artists and more relevant to contemporary practices (Mason 1988, Dawe Lane 1995, Steers and Swift 1999), the question of how new technologies might be actively employed for production and critique has not yet been fully addressed. Indeed, it has been noted that the initial uses of ICT in relation to art invariably employed new tools to continue traditional approaches, such as the exploration of line, tone and form, rather than meanings or context (Meecham 1999.)

The field of digital media incorporates a broad range of audio–visual and communication technologies, with the ability to combine traditionally separate forms of text, still and moving images, sound, graphics etc. Within this field, the Internet is probably the largest domain of convergence, a space of communication, production, exchange and dissemination. The claims made for the Internet in relation to education are many, from the transformative to the revolutionary, but my experiences working with digital media in art education projects from the mid–90's onwards, revealed many gaps between the potential and its realisation. These gaps indicated to me that a number of key areas needed investigating in order to clarify certain questions which these projects, along with the work of others, were throwing up.

- There were increasing numbers of digital arts and Internet projects being developed involving schools, but what exactly was the nature of their involvement? How were the young people engaging with the media at a critical and creative level?

- As the World Wide Web expanded, many museums and galleries were putting Web sites up, but were they exploiting the characteristics of the medium or replicating existing print–based or other physical resources? Indeed what were the unique characteristics of the medium?

- To what extent were artists whose work embodies a critique of the art world (seeking to expose hierarchies, giving space to marginalised artists or ideas and disrupting the power of the market), being examined in the context of formal education?

It was from these broad questions that the research study emerged. The aim was to examine the Internet as both a research tool and a creative medium, in the context of formal art education, through a case study Web site project introducing an international selection of contemporary artists, organised around a range of themes. Following the development of this resource, I went on to trial it with teachers and students, simultaneously examining comparative resources and related literature. It was in the course of the resource's development that the key question became identified: *To what Extent is the Internet an Appropriate Medium for Learning through and about Contemporary Visual Art?*[1] At all stages, the research has been concerned with the Internet not simply as a medium for storing and accessing information about contemporary art and artists but also for learning through making and interacting. Throughout, I have been considering the issues from the perspective of an artist/educator, reflecting on the development and use of DARE as both the maker and the researcher. This perspective has informed both the broad spectrum of contextual research (chapter 2) and the hybrid methodology (chapter 4).

As I have indicated, my interest grew from a continuing personal involvement in the fields of media art and education, as an educator and an artist, which has made me both an enthusiast and a sceptic in regard to digital technology. Being employed as the research fellow on the Digital Arts in Education project (explained in more detail below), gave me the opportunity to examine the questions identified here. Whilst my experience as a practitioner has been confined to Britain, as a researcher I have had the opportunity to travel and meet with colleagues in Canada, North America, and Europe. Through my

[1] I have clarified my application of the key terms used in the title in Appendix 1.

involvement with the Institute of International Visual Arts (inIVA), I have spoken with contemporary artists and educators from Africa, India, the Caribbean, Australia and Latin America. By drawing on these multiple perspectives, I have tried to broaden my view of what is a global resource, whilst focussing on its educational application in a British context.

1.2 Background to the Research Study

Having outlined the perceived gap which prompted this enquiry, it is important to illuminate some of my personal motivations as well as to give some background to the media in which much of this research was conducted.

1.2.1 Researcher's experience

In 1994 I was involved with a fledging multimedia art project, which hoped to explore the interactive possibilities for women artists, in remote locations, sharing work and ideas. Networked through five media centres in Britain and one in Hungary, '6^{n}' linked the artists through network connections at each of the centres, made possible by Demon Internet – one of very few ISPs available at the time. We were all photo–based artists and this was a chance to experiment with new software which would allow us to montage and manipulate our images, combining and re–versioning each others' work, adding text, colour etc, without going near chemicals or a darkroom. The software was *Photoshop* (Adobe © 1990–2006) and using FTP we were able to send these images to each of the different centres. Then, at a prearranged time, we sat down to 'chat' (or rather type) about our work in real time, using IRC – an exciting if disjointed experience which clearly privileged speed–typing over verbal skills. In fact, a Deaf artist in our group led the conversation with her ability ask and answer at a faster rate than anyone else, her years of text telephone experience coming into its own. It was over that six–day workshop that I became aware of a host of possibilities for authoring, researching, collaborating, communicating and publishing in this confluence of digital media technologies, particularly for people who had previously been marginalised or denied access to other media forms and forums. It was also when I first noticed that the reality did not necessarily live up to the promise – just because the technology was new, did not mean that the ideas it delivered were.

Over the next three years I worked on a series of projects, which set out to give various groups of people, whose access to new media was limited, the opportunity to work with digital technologies in the context of creative workshops or artists' residencies. In the 90's these media (digital photography, hypermedia tools, Web publishing software and Internet communication tools), were increasingly becoming the subject of claims indicating profound changes in the relationships between teachers and learners (e.g. Papert, 1993), consumers and producers (Buckingham & Sefton–Green 1998). Such potential changes were clearly relevant to projects with a socio–political intent of widening access, but there was limited research available about how widespread or how long–term these changes might be, given that they appeared to be the result of short–term and relatively small case studies. Therefore, I was curious to what extent this media was actually producing new models of teaching and learning. And within the context of teaching and learning contemporary visual art, what were its strengths and weaknesses?

The sort of projects I was working on were also, by and large, short term and small scale (eg The Rosendale Odyssey 1996–7, De@fsite 1997–8), so I was concerned with how participants could gain sustained access to these technologies. In many ways, the New Labour government's agenda signalled the possibility of a more sustained access, with its programme of Internet access for all schools (DfEE, 1997). In addition, the falling cost of hardware, software and ISP charges, meant access outside mainstream education was a possibility for more and more people in Britain. "…projections of current increases in Net usage indicate – we are told – that the entire world could in theory be connected by the year 2003." (Turner, 1995, p33) Turner actually reveals more scepticism than this apparently optimistic statement might suggest but nevertheless, at this early stage in Internet development there were many such inflated predictions about the coming techno–utopia. It seemed necessary to question such projections, partly because they appeared to be driven by the telecommunications industry (Brook and Boal, 1995) and partly because my experience at grass roots level – where access was patchy and training frequently non–existent – revealed a very different story. Hence I needed a clearer picture of the extent and the nature of access to (and use of) new technologies, in schools and homes across Britain. Where was the research which revealed, not how many schools were connected to the Internet, (DfEE, 1998) but where those connections were and how (and by whom) they were being utilised?

1.2.2 Digital Culture

From the mid–90s, as artists like Stelarc, Guillermo Gomez–Peña, Thompson and Craighead, Keith Piper, Heath Bunting, and Mongrel, pushed the ways in which digital media could be used to create, collaborate, communicate and critique, digital art began to be identified by some people, as a distinct (if contested) discipline. But this newest contemporary art form was just one of many absentees from the formal school curriculum. For example, traditional resources (books, videos etc) still did not seem to feature any African or Indian art, unless it was an ancient religious or cultural artefact. When my research for this study began in 1998, extensive Internet searches revealed that the few existing online resources for art education were simply digitised replicas of the chronological Western art histories, which were a feature of so many national museum collections. In 1998, a search for 'contemporary AND art' could lead you to the WebMuseum (WebMuseum 1996) site, which is a list of all the commonly expected names from the "history of art canon" – 200 European men and 2 European women, almost all of them painters and sculptors. Where were the education resources for contemporary art and where were the examples of recent work by artists of non–European or North American origin? And what kinds of resources *were* being produced in digital form?

If artists were using the hybrid and collaborative aspects of the technology to critique conventional modes of production and exhibition, engaging with issues of identity, authorship and audience (Hershman Leeson, 1996), why were so many of the art education projects focussed solely on the acquisition of new skills (NCET 1998)? Was the statutory framework for ICT education, limiting children's engagement to a purely skills–based, vocational approach? Furthermore, to what extent could an interactive Web site be a critical tool rather than simply a research resource?

The rapid increase in Web–based resources, indeed the phenomenal growth in all uses of the Web has been so fast that even during the course of this study, the landscape has changed considerably. The Web, as it existed when this project began in 1998, had neither such a broad cultural and geographic resource base, nor was it so accessible as today and that has inevitably impacted on this research and shifted the parameters somewhat, in ways which I will go on to explain. While it may be possible to assert that

some revolutionary changes have occurred in relation to certain practices and fields[2] as a result of a developing online culture, the formal education sector in Britain reacted to these changes with a series of sporadic and largely unevaluated initiatives, resulting in an uneven spread of connectivity, training and application across the country. Moreover, there is evidence emerging which indicates that while these technologies are undoubtedly new, they have had relatively little impact on a formulaic curriculum and still reflect, to a large extent, the conventional structures and hierarchies which exist in the non–digital world. The ImpaCT2 interim report notes the uneven nature of technology provision in schools and reveals that pupils are frequently frustrated by an ICT curriculum which underestimates their capabilities. In addition, the report confirms a divide in home access to hardware and software, which appears to put children from higher socio–economic backgrounds at an advantage in their computer use at school. (DfES 2002)

In 1999 a BBC News Online report declared that 80% of the world's population did not have telephone access, let alone connections to the Internet and while there were an estimated 10.5 million Internet users in the UK, in the whole continent of Africa there were only 1 million (BBC News Online 1999). Here in Britain, by August 2001, an estimated 60% of Britons were apparently using the Internet either at home, work, school/college, cybercafé or library, with 35–49 year olds being the largest user group (Jupiter MMXI 2001). One month later, the Government declared that 96% of primary schools and over 99% of secondary schools were now connected to the Internet (DfES 2001). While such statistics give an overview of the geographies and demographics of connectivity over time, what they do not reveal is the nature of this access and what sort of engagement has been afforded. It has been suggested (Negroponte 1995, Mitchell 1996, Turkle 1996) that digital technologies hold the promise of and the potential for radical shifts in social relationships, notions of identity, modes and sites of learning and even the way we participate in and engage with the world. Technology is frequently sold as the solution to various educational problems (for parents and teachers) and the educational technology market is expanding rapidly as a result but, these claims have been contested by others who see their validity compromised by commercial interests (Buckingham, Scanlon, Sefton–Green, 2001). Therefore, a critical question to ask at this

[2] For a general analysis of this see Slevin, J (2000) The Internet and Society. For an assessment of the Internet in relation to civil liberties see Liberty (1999) Liberating Cyberspace – Civil Liberties, Human Rights and the Internet.

point is, to what extent is the potential offered by the Internet, in relation to social, cultural and pedagogic transformation, actually being realised? In the light of all these recent developments and debates, this research sets out to examine one aspect of this, namely to what extent the Internet can facilitate learning about and through contemporary visual art.

1.2.3 The DARE project

In January 1998, I was employed for three years to research and develop a project, which enabled me to formalise my curiosity into a research enquiry. The Digital Art Education Research Project, later named The Digital Art Resource for Education (with the more memorable acronym of DARE) set out to create a culturally diverse contemporary art education resource, using Web–based technologies. My role was to research the themes and the technologies and to devise and create a suitable resource. The objective of DARE was to create an online resource for a broad education audience. The aim was to provide access to and engagement with a range of artists' work, organised around a set of themes drawn from the concerns of current and recent art practice, which were also deemed to have relevance to today's diverse school populations. These themes were originally conceived as *play*, *space + place, translation* and *making + evaluation*[3]. The research in this enquiry has used the DARE resource as a case study at the centre of a wider review of art and ICT practices in school–base education and the development and application in this case will be given in chapters 4, 5 and 6.

The DARE project is a collaboration between The Institute of International Visual Arts (inIVA) and two schools at Middlesex University, namely, The School of Lifelong Learning and Education (LLE) and The Lansdown Centre for Electronic Arts (LCEA) in The School of Arts. The School of LLE runs a number of teacher education programmes at undergraduate and postgraduate level with research centres for primary, secondary and work–based learning as well as in trans–disciplinary areas such as Arts, Language and Learning and Educational Technologies. LCEA is home to a range of creative digital arts MA courses and has related research activities, particularly in the field of virtual worlds technology. DARE was the first funded project with input from these two schools

[3] Although evaluation and making was one of the original themes, at an early stage I made the decision that these ideas should be embedded throughout the whole project, so the themes became *play*, *space + place and translation*

and they have since shared a number of collaborative research initiatives. inIVA, the arts partner, was established by the Arts Council of England in 1994 and has since that time gained an international reputation promoting the work of artists, writers and curators from diverse cultural backgrounds, through the fields of exhibition, publishing, multimedia, research and education. From the outset, research and education have been core strands of inIVA's programme. They have continually sought to examine artist's practice as a valid form of research, and education as valid space for producing innovative artworks (Raphael 1997).

At the end of 1997, this partnership received a three–year grant from The Arts Council of England under the Visual Arts Department, *Media Arts in Education Scheme,* to develop the Digital Art Education Research project. Since 1993, this scheme (and its predecessor, the Teacher Development Scheme), has been funding three–year action research collaborations between higher education institutions and arts organisations, exploring the creative applications of lens–based media, electronic media and digital technology, integrated within education practice.

While this study is intimately linked with the job of producing the Web–based resource, the focus of the research, in particular the broader question of the effectiveness of this media in learning through and about contemporary art, has been a parallel and continuing process. Moreover it allows me to analyse the development and production of the resource in this particular context, addressing the impact of issues like public funding and divergent institutional agendas, as well as my own subjective preferences, which may have influenced outcomes.

1.3 Background to the collaborating institutions

In order to contextualise both the project and the research, I will give a very brief background here to the way the participating organisations have been working, prior to DARE, and to how the fields in which they operate have influenced their definitions of research, with extended information in the appendices (Appendix 2). This information is of relevance because the initial project brief emerged from a collaboration between these organisations and this institutional interest has inevitably influenced the resource's development. I will go on to sketch a very brief overview of the recent developments in

education with the development of the National Curriculum for art and design and the place of ICT.

1.3.1 inIVA

inIVA was established by the Arts Council in 1994 as the only national arts organisation with a remit to promote the work of artists from diverse cultural backgrounds. From the outset, it aimed to work, not in a traditional model through the production of exhibitions in a designated gallery space, but in partnership with a range of collaborators in arts, education and industry. Their output has taken many forms, working across and between the areas of publication, exhibition, research, education and multimedia.

Prior to the DARE initiative, inIVA had previously published a number of works for education and research use, including *Sources*, a slide resource for undergraduate tutors and students, coinciding with the *Africa '95* national art event, which considered the work of contemporary art made by African artists in Britain (Malik, Smith 1995), the *Portraiture and Landscape* Education packs for teachers (Malik, Kennedy 1995) and artist Mary Evans CD-ROM *Filter* (Evans, 1999).

One problem with all these resources was that they had no means of wide distribution, ensuring that whatever effect they might have in schools would be minimal. Another issue was that of evaluation. Again, the problem of being a small, publicly–funded arts organisation meant that there was no infrastructure to undertake any effective evaluation into the use and impact of any of these resources. With DARE, its siting on the Web meant a potentially much larger audience and the three year funded research partnership with Middlesex presented the opportunity for an integrated evaluation strategy from the start.

1.3.2 Middlesex LLE

Staff at LLE had been engaged with various inter–disciplinary research activities when the DARE project was set in motion in 1997, producing a number of publications which question the orthodoxy of formal approaches to art education, including *This is Not the National Curriculum for Art* (Cox and de Rijke, 1995) and *The Impossibility of Art Education* (Cox, de Rijke and Hollands 1999). Several of these had been in direct response to the introduction of the new National Curriculum in 1992, in a climate which

seemed to stifle debate about what was motivating these changes in education policy. One basic question underlying each of the Middlesex research projects, 'what is art education for?', revealed a whole range of politically, historically and culturally encoded responses.

In their mission statement inIVA foregrounds its role as a catalyst for sparking debate.

> "inIVA invites artists and audiences to question assumptions about contemporary art and ideas. It acts as a catalyst for making these debates and artworks part of mainstream culture." (inIVA 2001).

These positions, interrogating the role of art and artists in society, supported my feeling that the DARE site should be a resource which promoted a questioning approach to art and had an influence on both the design and content, in ways which I will go on to explain in Chapter 5. But their involvement also produced a tension. In evaluating the use and effectiveness of a resource which has received public funding, or is reliant on external research funding, there is a pressure to overstate the successful elements of the project and act as a permanent advocate, rather than a critical observer. This research study affords me some distance from the role of project manager, allowing a more objective assessment of the strengths and weaknesses of the project in a wider cultural context.

The following section will help put the critical position on the practices and policies of the formal education sector, adopted by the partnership institutions, in a broader context.

1.4 Overview of Art and Design Education

In their brief history of British art education over the past 150 years, Hughes, Stanley and Swift (Hughes, Stanley and Swift, 1990) identify a number of distinct systems and beliefs within education policy generally and specifically within concepts of art in relation to learning. Art education has traditionally been seen as a skills–based subject and has developed to incorporate two different 19th C. traditions. The study of fine art drawing and painting principles was seen as part of the upper class academic arts education while the development of craft skills through a system of apprenticeship was the route for working class artisans and industrial designers. Art history, on the other hand, was a

purely academic subject covering the chronological development of aesthetic styles, practices and beliefs of artists, separated into Western and non–Western traditions as reflected by museum culture. The craft skills model has survived as basis for much of what is still taught in school art departments today (Hollands and Raney2000b). While art history remains an academic subject of study, another history of the visual has emerged in the postmodern age, which addresses the multiplicity of contemporary visual media, not only in the traditional art practices of drawing, painting and sculpture, but also in the realms of mass communication media such as television, photography and print. Moreover, this new academic field incorporates the scientific and sociological aspects of the visual which account for how we see and perceive, as well as how visual meanings are socially and culturally constructed. This whole field, known as visual culture, acknowledges the slippage between what had previously been seen as separate areas of study, production and engagement, and introduces the notion of the visual event. "The constituent parts of visual culture are, then, not defined by medium so much as by the interaction between viewer and viewed, which may be termed the visual event." (Mirzoeff 1999: 13) This shift in framing how we study the visual has had a huge impact on college and university courses, but has thus far had minimal impact in the school education sector.[4]

Since 1992 teachers in the statutory education sector and those responsible for teacher training have had to work within the framework of the National Curriculum. The curriculum for Art and Design emerged from a consultation document by The National Curriculum Art Working Group (NCAWG) established following the Education Reform Act of 1988. They proposed a curriculum with an accent on practical making but with a central critical component, measured through three attainment targets (ATs). This incorporated the evaluation of artworks combined with a developing knowledge of artists and art history and an understanding and articulation of the processes of research and investigation in their own practice. Following an intervention by the Secretary of State for Education, Kenneth Clarke, the three attainment targets were collapsed into two: AT1 Investigating and Making and AT2 Knowledge and Understanding (see Appendix 3).

[4] In 2000, NSEAD published a special edition of its journal, JADE, aimed at teachers of art and design. Entitled "Directions", it was a collection of pieces by national art educationalists, each arguing for a reformed art and design curriculum which engaged with pop culture, post–modernism, cultural diversity, semiotics and new technologies.

By 1999, the revised National Curriculum for Art and Design had reformulated the programme of study to a position much closer to the original working group's concept. It consists of four constituent parts of one overall attainment target, incorporating 'Knowledge, skills and understanding.' Those four subdivisions address: Exploring and developing ideas; Investigating and making art, craft and design; Evaluating and developing work; Knowledge and understanding. The document is explicit about how these aspects should each inform and include the others. In addition, the document makes a point about the breadth of study which advises on the range of starting points for work, the modes of working the range of applications, media and disciplines and the sites, styles and contexts for making and studying work. All of this indicates a loosening grip on the ways in which art and design should be covered. But while, as before, this appears to signal a response to understanding the changing and diverse practices of artists in the visual culture of the 21st century, classroom practice often reveals a more traditional picture (Addison 2000; Downing & Watson 2004). Hollands suggests that the National Curriculum has continually retained an uncritical position on art history and contextual studies, when referring to the work of artists from either 'the Western tradition' or non–Western cultures, the implication being that these traditions are entirely separate (Hollands 1996:163). The advocates of critical and contextual studies and their proposals for effective inclusion in the curriculum will be further examined in Chapter 2.

Jones maps the evolution of the Conservative government's drive to reform education from the early 80s where he identifies two central aspects to their reforms, firstly to harness education to the needs of industry and secondly to re–introduce aspects of selection and 'elitism', which the previous decades of so–called 'progressive' education had tried to eradicate (1989). In apparent opposition, the goal of 'Social Inclusion' is high on the current Labour government's agenda, and ICT is seen as playing a key role in this, but the needs of industry and the national economy have remained in place, across the transfer of political power. As I have noted elsewhere, it is the applied social and economic uses of computers which drive the rhetoric, rather than cultural and aesthetic concerns (Sinker 1999). In developing DARE, I was keen to address this issue by introducing a critical element into the way students and teachers view not just the content of their art curriculum, but also the mode of its delivery. With the use of open questions and contextual materials, I tried to ensure the resource did not view ICT as

simply a facilitating medium for the consumption or production of information or as a set of skills to be acquired.

1.5 Methodologies: Case study, Literature Review, Art practice–based Research

I will be looking at methodologies in more detail in chapter 4, but will provide a brief summary here. The central methodology applied is that of the case study. This method is defined as "the study of an instance in action" (Adelman, Jenkins & Kemmis 1976: 43) and is the concentration on the relationship between the particular events, participants and outcomes of a singular instance or group of instances, within a specific time frame. This being a practice–theory research degree the case study, in this instance, is the DARE Web resource which is studied in two related parts. Firstly, compiling the qualitative data of the research and development process leading to the production of the digital resource, where this process is a documented case, from the conception of the design and the identification of aims, through to its digital realisation. Secondly the testing of the performance and uses of the resource – 'the instance in action' – with a number of target audiences, and subsequent critical analysis of these trials in relation to the key and subsidiary research questions. This includes the qualitative data detailed below and some quantitative data in the form of questionnaires and surveys. During the evaluation I have employed observation, semi–structured interviews, a focus group and questionnaires to get user feedback. These have been used at several stages in both the early development of the site, and its more recent application in the classroom. I have also visited schools and colleges to monitor and observe how the site has been used. Some participants also kept reflective journals, which I quote from, and I have kept my own refelctive notes, in the form of word–processed comments along with hand–written observations and diagrams. I account for these various methods with reference to key texts in chapter 4 (Burgess 1989; Newbury 1996; McKleod 1998; Barbour & Kitzinger 1999; Christensen and James 2000; Cohen, Manion & Morrison 2000; Gillham 2000; Sullivan 2005) and at various other stages in chapters 3, 5 and 6.

In addition to the above, the Web development and case study have been informed and supported by a literature and media review (detailed in chapter 2), where I review the key texts in the fields of contemporary art, learning, education and digital media. The media review also includes resources and guides in the area of educational multimedia. Extensive Internet searches were conducted, especially in the initial stages of the

enquiry. These were primarily to look for comparative models of online resources and to read articles in online publications.

This research is not action research in its strictest definition, in that I am not the teacher investigating my own teaching practice in order to improve it (again see 4.3.1). However it does relate to Frayling's definitions of research *through* art (his italics and a reference to the Herbert Read's category), and in particular the subcategory – development work (Frayling, 1993, p.1). His description of action research also corresponds with the development documentation I have used to describe the process of designing and revising DARE, and could be termed practitioner–based research, since I developed, produced and tested this resource.

Taking Cohen, Manion and Morrison's interpretation of the three main approaches to educational research (2000, p 3–45), I would suggest that my research involves both types two and three, that is, an attempt to understand and interpret the actions of people (including myself) and a critical examination of the political and ideological contexts in which the actions and research are taking place. I have not applied the scientific paradigm, which they identify as the first approach, whereby research is based on the testing of a theoretical hypothesis or hypotheses. However, there is arguably an element of this approach to the extent that DARE was developed and designed as a framework within which to demonstrate or test an idea and used as the research subject, because no other similar resource existed at the time.

1.6 Summary of thesis chapters to come

Having laid out the background to this research in the introduction, including how it relates to the requirements of the job which I was employed to do, by Middlesex University and inIVA, I will now summarise what the following chapters will address.

Chapter 2. Literature and Media Research and Review

This will be an overview of the theories and practices researched, listing the examples surveyed, identifying definitive or landmark texts, theories, models and other related work in the field.

Chapter 3. Issues Arising from Literature and Media R & R

Here I will analyse the key issues identified from the review, as they relate to the development and subsequent testing of the DARE resource. These will include a summary of perceived strengths and weaknesses of the media in this context, in relation to access, diversity and learning.

Chapter 4. Methodologies:
This will be an overview of the key methodologies chosen – case study; literature & media review; practice–based research. The overview will be supported by an explanation of the relevance and relationship between methodologies within this particular project and a diagram of how they work in the practice–theory model.

Chapter 5. Account of the Web Development
Here I will identify the specifications of the resource: what it is, how it works, who it is aimed at, in the context of the sponsoring institutions and in light of the literature and media survey. I will then give a critical account and overview of how DARE was devised, designed, developed and revised, accounting for external input, technical and design decisions and how formative evaluation and reflective practice have shaped the site.

Chapter 6. Resource Trials
The trial of the DARE site as a case study, incorporating a description and analysis of the trials with school students, PGCE students and teachers, will be examined in this chapter. It will also include excerpts from an analysis of these discussion transcripts by a focus group of educators, art advisors and digital designers.

Chapter 7. Conclusions
The issues and the questions raised, the challenges posed and possible solutions offered will be the subject of my concluding chapter, where I will summarise my responses to the question *To What Extent is the Internet an Appropriate Medium for Learning through and about Contemporary Visual Art?*, examining which aspects have been successfully (and unsuccessfully) addressed. Identification any new issues or questions arising and pointers for further research will be included here. The clarification of the questions and issues to be considered and the methodological framework I provide for such research, will constitute an original creative and scholarly contribution to the field. (6085)

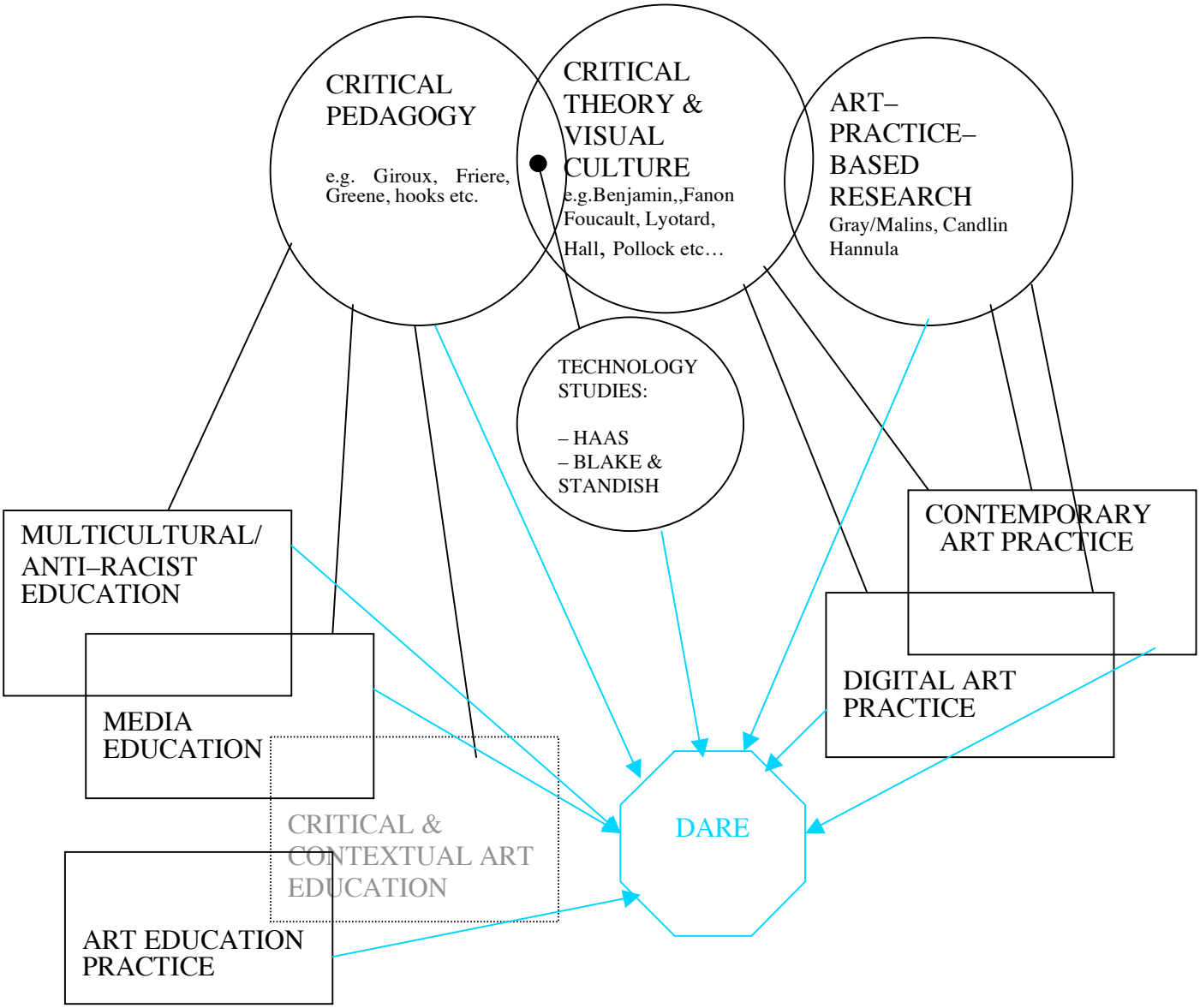
Chapter 2. Literature and Media Research and Review

In the introductory chapter, I set the scene for the present research study with a background to the DARE project, including the aims and interests of the institutional partners as well as my own critical and creative interests. I gave an overview of formal art and design education in a British context and included a brief look at the way contemporary artists have been using digital technologies in social and cultural contexts.

This chapter will cover the literature and media texts reviewed during this study, expanding on the contextual issues above and highlighting those key texts that have informed or supported my theoretical arguments as well as influenced my practice. Those texts (including other media resources), which specifically informed design decisions during the production and revision of the resource, are mainly referred to in chapter 5.

Here I am reporting the reading and critical reviewing, which was undertaken both before I began developing the resource and at certain points throughout its development, right up to the point of completing this study. In this field – digital art and education – new developments and publications have necessitated a continuous review. It is important to keep in mind that DARE was conceived as an online resource but is also a creative multimedia work intended to embody and facilitate many of the practices I have developed through working as an artist/educator with students, in various formal and informal education settings. Along with presenting a range of less well known, culturally diverse contemporary artists' work, one of the key aims of DARE was to raise questions and to critically engage the user. I felt the whole site should reflect this, not only in the language style – where questions are used as much as statements – but also in the look of individual pages and the design and architecture of the whole site. The breadth of reading and research, summarised in this chapter, reflects and informs this approach.

Since this study is interdisciplinary I have loosely grouped texts/works under section headings which intersect at the starting point for the DARE project. The first section (2.1) briefly examines **Critical Pedagogy**, which has, along with critical theory to which it relates, had an influence in shaping both art education and art practice and therefore has had an impact on the development of DARE.



Relationships between theories and practices

Influences on the development of DARE

A model which is still underdeveloped in most secondary schools

Fig. 2.0 Diagram of the relationship between the fields of enquiry in the DARE research study

The second section (2.2) builds on the broad look at **Art and Design Education** from the previous chapter, reviewing different philosophical approaches to art and design education in Britain leading to the current state of practice. This review includes the emergence of multicultural, anti–racist and media education and

considers the development and uses of ICT within art education. Here I bring in two key texts (Haas, 1996; Blake and Standish, 2000), which might be categorised under the term technology studies and which could be situated at the small overlap between critical theory and critical pedagogy. The final section (2.3) looks at contemporary **Digital Arts Practices** and net–based practices as these have been shaped by, and inform, both critical theory in the area of visual culture and art–practice–based research. The diagram above (Fig. 2.0) illustrates the relationships between these various areas and strands of enquiry.

The above distinctions help clarify the overview of the pedagogies and ideologies of art and new technologies but should not give the impression that I read or researched these variously grouped texts at separate phases. On the contrary, reviewing literature and media in these areas has allowed me to think about how the form, content and purpose should be interrelated from the outset (see chapter 5).

Within sections 2.2 and 2.3 I also make reference to a number of non–digital examples of educational resources, from which I could draw formal or philosophical models. This is expanded on in chapter 3, where in recognition of the initial lack of digital examples in this subject area I build the argument for DARE's development.

2.1 Critical Pedagogy

The term 'critical pedagogy'[1] refers to a field or framework which contains the various voices and theories of radical 20th century educators who sought to democratise schooling by linking it to transformative social action in the interest of those who are oppressed, marginalised or otherwise disadvantaged, by the structures and hierarchies in society. Critical pedagogy's relevance to this PhD is revealed through a series of trails which can be traced from many of the more radical or progressive movements in the evolution of late 20th century British education, as well as through participatory and socially engaged art practices, to the key aims and ideas of critical pedagogy's various exponents. In a critical pedagogy, education is not seen as the processing of received knowledge but as the transformation of knowledge through and for social change. Viewed in this way, it becomes impossible to use a term like

[1] The first published use of the term is in 1983, in Giroux's *Theory and Resistance.* Since the use of this term was an attempt to group a diversity of voices and perspectives on the left, across chronological and cultural divides (from the post–Marxist critical theories of the Frankfurt School to the liberatory pedagogy and practice of Brazillian educator Paulo Friere), it is inevitable that it conceals dissent and critique even from within, perhaps most particularly in reference to issues of class, race and gender. In the present study there is not room to provide a detailed review or analysis of the whole field, or those internal arguments.

delivery, (which appears frequently anchored to the word *curriculum* in much of the education literature aimed at teachers) because a simple, one–way action is at odds with the complex set of relationships, hierarchies and contradictions which critical pedagogy acknowledges as the dialectical nature of schooling.

> A critical pedagogy seeks to address the concept of cultural politics by both legitimising and challenging students' experiences and perceptions, that shape the histories and socio–economic realities that give meaning to how students define their everyday lives and how they construct what they perceive as truth. (Darder, Baltodano and Torres, 2003: 11)

Commenting on the way "progressive and radical critiques of schooling have been reduced to a whisper", Giroux notes that over the last few years, "The pedagogy of critical enquiry and ethical understanding has given way to the logic of instrumental reason, with its directed focus on the learning of discreet competencies and basic skills." (2001: 43). Nowhere is this more apparent than in the teaching of ICT, where critical analysis of the theories and practices in this field is virtually non–existent, within the curriculum.

Giroux is writing in contemporary America, where individual school districts can legislate on what is taught and how schools are run with market forces inevitably playing a significant role. While in Britain the situation is different – with a state–mandated National Curriculum – the influence of the information and communications technology industry on curriculum development is evident, not least in the digital service contracts which education authorities sign up to with commercial providers. More recently the emergence of City Academies (at the time of writing) with their reliance on private capital mean market forces could potentially have an increasing influence on the British curriculum.[2]

Giroux suggests that "… radical pedagogical work proposes that education is a form of political intervention in the world and is capable of creating the possibilities for social transformation." (2001: xxvii). However, by its own admission, critical pedagogy acknowledges that schooling exists within and contributes to a broader

[2] The controversial city academy scheme allows the sponsor to appoint governors and senior managers to the school, as well as having some influence over the curriculum. Proponents see it as a way of revitalising ailing schools, producing better exam results, while critics say it is privatisation by stealth and represents poor value for money. For more on this see this news article by Matthew Taylor, (3/12/04) http://education.guardian.co.uk/schools/story/0,,1371321,00.html

social arena, where various economic and political forces are at play. As others have noted (e.g. Gibson, 1986: 163–5) some of this theory seems to overstate its own emancipatory potential, given that even the most radical teachers can probably only affect the students with whom they have direct contact and transformation on a larger social scale is unlikely to occur. If, as Giroux also suggests, “A notion of self–criticism is essential to critical theory” (2001: 17), then it seems important to critique and question the claims of critical pedagogy as one would question the claims of any other theory. Even while the rhetoric of critical pedagogy has been of key importance to this project, emancipation seems rather a grand ambition for a Web site. However, the question of whether and to what extent knowledge can be liberatory is almost certainly beyond the scope of this study.

2.2 Art and Design Education

In Chapter 1 I reported how the development of the National Curriculum in England has framed the way art is being taught within the formal education system, summarising the various ways art education existed up to that point, within a British context. The following section expands these themes but, due to limitations of space, more detailed background information is found in the appendices (Appendix 3.)

In the history of art education in Britain, various philosophical and pedagogic models have shaped not only how art has been taught in the classroom, but also how it is viewed as a subject within the wider curriculum and as a field in the broader context of society. Even the title given to the subject – art, art and craft, art and design – places it at a moment in political and social history. As noted in the introduction (1.4) *The Art Machine* (Hughes, Stanley and Swift, 1990) provides a useful summary of the main concepts and frameworks for art education over the past 150 years, while a more detailed overview can be found in *The Histories of Art and Design Education: Cole to Coldstream* (Thistlewood, 1992). In *The Art Machine*, the authors summarise education policy – which inevitably affects art education policy – as being framed within one or more of the following principles: “liberal (knowledge for its own sake), utilitarian (knowledge as useful skills), conservative (knowledge to fit one for society), or radical (knowledge to question society).” (Hughes et al., 1990:13). Any of these knowledge forms can be acquired through example as well as through experience, Art and design education being further influenced by the various notions of art – as a cultural practice; as a leisure pursuit, as an economic sector and as a skill for work.

To reiterate, this history can broadly be divided into practical and theoretical strands, each of which contains a spectrum of approaches. Within making, this began with artisanal craft–skills and academic fine art teaching moving to a more child–centred expressionist approach, which Thistlewood suggests grew out of early 20th Modernism and was enshrined by the 1944 Education act (Thistlewood, 1993: 307). There was a swing from a practical approach with a strong connection to industry in the early part of the century, to a mid–century art–for–art's–sake movement linked to theories of child psychology and creativity. This now seems to have swung back to a position where the subject's relation to (creative) industries is once again a strong influence. It was partly educators themselves who agitated for greater subject knowledge and a critical – at some points even radical – engagement with the contexts of art production which led to the present position, but this was to be moulded by a Conservative political agenda, reacting against what were felt to be unchecked 'progressive' tendencies in teaching (Jones, 1989).

Since my PhD study grew out of a commission to produce a digital resource which addressed a perceived schism between what might be termed 'school art' and *contemporary visual art* practices (see Appendix 1.3 for the parameters of these terms), it was necessary to consider what might constitute the recent approaches to art education in secondary schools, what attempts have been made to diversify or update them, and what part ICT is seen as playing here.

> …contemporary art can often seem inappropriate in a school environment where the emphasis on the teaching of basic skills, observational drawing and still–life painting has traditionally dominated the curriculum, and where reference to the 'work of others' has often been restricted to easel painting. Fortunately there are a growing number of art and design departments that do not fit into this 'school art' category, but far too many still fail to utilise the diverse range of methodologies, materials, issues and concepts that are available through exposure to contemporary practice. (Burgess, 1995: 114),

This criticism of what might be termed the 'school art' orthodoxy is fairly representative of the view held by academics and museum and gallery educators at the end of the 20th Century, that while there are some pockets of exemplary practice, many school art departments are stuck in a 19th century mode. What many educators have been arguing for from the 1990s onwards and particularly since the introduction of the National Curriculum in 1992 (see for example Binch & Robertson 1994;

Buchanan 1995; Burgess & Addison 2000; Hollands 199; Hughes 1998), is a new model of art education. *A Manifesto for Art in Schools* (Steers & Swift 1999) is one such re–conceptualisation which makes a direct connection with the ways artists from Duchamp[3] in the early part of the 20th century right up to the present generation

Fig 2.2 Duchamp (1917) *Fountain* Ready–made.

of net artists, such as Heath Bunting or Thompson and Craighead[4] have been arguing *through* their work.

[3] This urinal was submitted by Duchamp to The Society of Independent Artists exhibition in New York, under the pseudonym R. Mutt. He wanted to test how far their idea of artistic freedom went but his submission caused outrage and was duly rejected, at which point the readymade and the notion of conceptual art were born.

[4] A specially commissioned gallery installation for, 'Art & Money Online' held at Tate Britain in March 2001, curated by Julian Stallabrass. In 'CNN Interactive just got more interactive' artists Jon Thomson & Alison Craighead allow visitors to add a variety of soundtracks – using the musical mood selection menu seen above – to the monolithic CNN Interactive Website in an attempt to further mediate a moment of infotainment – to bring a cinematic conceit to this ever changing global news feed.

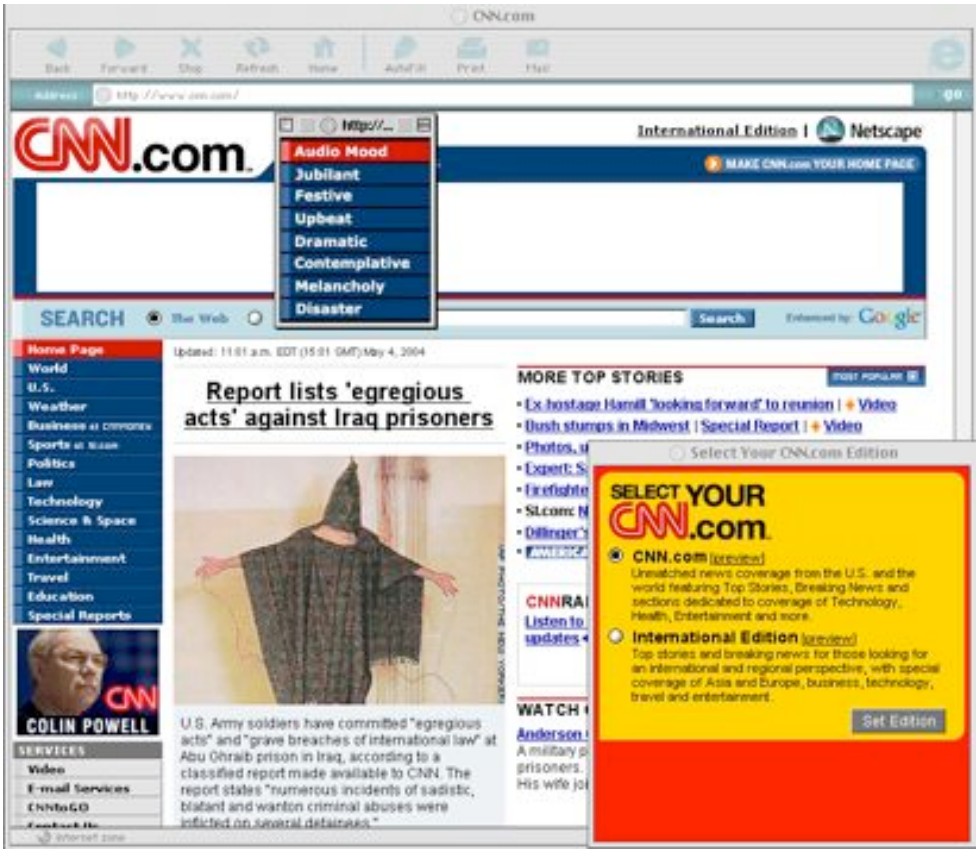


Fig. 2.1 Thompson & Craighead, (2001) *CNN Interactive Just Got More Interactive*, (screenshot, 4/5/04)

> The emphasis is on the learner and learning, negotiating what they learn, learning how to learn and understanding knowledge as a multiplicity of changing hypotheses or theories which are subject to evidence, proof, argument and embodiment. (Steers & Swift 1999: 7)

This model of the autonomous, motivated learner, who places herself in the context of a broader social (and post–modern) concept of knowledge, draws on Bruner's theories of instruction relating to insightful comprehension and intrinsic problem–solving (1960). The *Manifesto*'s developmental, *critical* model of art education views art (including pupils' own work) in the shifting contexts of its conception, production and reception, where a much broader range of art–forms and art practitioners should be examined, in order that these might resonate with and inform pupils' experiences of contemporary life. The arguments in *A Manifesto* could be seen as the culmination of the push (by NSEAD and others) to invest art and design education with an embedded critical and theoretical component, for reasons of subject professionalism as much as the learning experience. But they are also, in part, a reaction to the social and cultural positioning of art, at a point when British society is recognised (by artists

among others) as both culturally and ethnically diverse and informed by global networks of multimedia communication technologies. In section 2.2.2, I will review some of the arguments for an explicitly multicultural education but at this point I want to examine the arguments for critical studies within art, which led to the critical model laid out in *A Manifesto*.

2.2.1 Critical Studies in Art Education

Drumcroon Education Art Centre was the site of the national Critical Studies in Art Education (CSAE) project (1981–4). CSAE was supported by the Arts, Crafts and Schools Councils and addressed the concern that a purely expressive and practical approach to art–making meant that many children were leaving school with no understanding of how art and artists functioned in the wider world. Nor was it felt that such an approach necessarily helped them reflect on or evaluate their own work (see Appendix A3.3). In *Educating for Art*, Taylor, who directed the CSAE project, argues for the integral relationship between thinking and making:

> …genuinely expressive work on any appreciable scale, would appear to arise most frequently out of circumstances in which insight, awareness and understanding are also fostered." (1987: 281)

Drawing on a range of case study experiences, he suggests a number of ways teachers can broaden the knowledge and activity base for themselves and their students, including: drawing on pupils' own work; using original artworks; working with artists, designers and craft–makers; using secondary sources and reproductions of a wide range of artworks; going on visits to galleries, museums and art centres.

There is no doubt that the motivations and proposals of the CSAE project, as expressed in *Educating for Art*, had an influence on the development of art and design in the National Curriculum and many of these suggestions now appear in the programme of study for art and design KS1–3 (DfES, 1999). However, being prior to the 1988 Education Reform Act and the devising of a National Curriculum for Art, the ideas this and other related publications contained filtered into schools in an uneven and uncoordinated way (Thistlewood 1992:1). Even those who advocated the value of critical studies in art have argued about how it should feature in the curriculum and in the context of examinations, caution against a move to validate the subject through an overly academic weighting, or to make it more easily assessed by using a fixed canon of references (Taylor 1992: 100; Hughes 1993:283).

It would appear that the push for a critical and contextual element to art education can mask either a radical or a conservative socio–political agenda. The radical view could argue that empowering students to recognise the social, political and economic values and conventions which visual culture can embody or question, is an essential role for education in a democracy. The conservative view might argue that educating our young people in the exemplary creative, cultural and historical traditions of the nation will allow them to seek excellence in themselves and allow us to assess their achievements on this scale. Swift talks of the selection of "consensual canons" as an apparent "consequence of introducing art–criticism, art theory and art history as tools of art knowledge into the school curriculum." (1993: 291). In particular he warns of the danger of judging what is 'good' art in the context of the National Curriculum's concept of 'our' cultural heritage and counsels that we should *consciously* retain the broadest range of artists and artefacts in our studies, whilst acknowledging historical as well as current bias within the mainstream art world.

What is advocated in National Curriculum guidelines frequenlty differs from actual classroom practice. The NFER report on The Effects and Effectiveness of Arts Education (at secondary) revealed a number of gaps in terms of outcomes identified by pupils. Three of the four "most noteworthy" related to the application of critical and contextual knowledge:

- the development of critical discrimination and aesthetic judgment making, especially the capacity to locate these in their social, artistic and cultural contexts.
- the furthering of thinking skills, or perhaps more accurately, a meta–awareness of the intellectual dimensions to artistic processes.
- preparation for cultural life as critical, reflective and active 'consumers' of the arts beyond school. (Harland et al, 2000: 566)

The more recent NFER report, on the place of visual arts in secondary education, underlines this point, noting, "The teaching of art skills was regarded by the large majority of interviewees as the bedrock of the curriculum, especially in KS 3." Understanding the meanings and contexts of art were of less consideration and largely dealt with later at KS 4 (Downing and Watson, 2004: 108). It is worth acknowledging the time–lag between academic revision of art concepts and the adoption of such approaches in primary and secondary education. As Burgess and Addison (among others) have pointed out, while "what happens in schools is in part a

reflection of, or response to, broader practices…" it is "…usually at one or two paces behind." (Burgess and Addison 2000: 4) But many of the arguments for a post–colonial review of art and art history date back more than twenty years, so how many paces is that? The following section addresses this topic of cultural relativity and diversity in more detail and has particular relevance for the development of the DARE resource.

2.2.2 Multicultural approaches to Art Education

The political move to recognise diverse cultural perspectives and address equality of opportunity through education first emerged in Britain in the 1970s[5] and began to have an effect on education and local authority policy in the 1980s (Figueroa, 1995). These moves were generally based on values and philosophies (including some shared with critical pedagogy) which considered education as a whole rather than through a set of discreet subjects, so the texts which relate specifically to art and design make up a very small proportion of the whole body of literature on multicultural or anti–racist education. However, one key national initiative, which aimed to develop and disseminate effective practice, was the Arts Education for a Multicultural Society (AEMS) project.

Established in 1987, AEMS was set up by The Arts Council, The Campaign for Racial Equality and The Calouste Gulbenkian Foundation, to explore ways of bringing existing multicultural education policies and proposals into effect, challenging prejudice and encouraging multicultural awareness in the arts curriculum. The ideology behind AEMS' policies considered multiculturalism and anti–racism "as two sides of the same coin, to work simultaneously." (Eggleston, 1995: 7) (see Appendix A3.4)

The key objectives were:

- To provide information and resources for teachers, LEAs and artists
- To establish training initiatives
- To establish models of good practice to be monitored and evaluated.

Reading about the work of AEMS in light of subsequent developments, particularly the introduction of the National Curriculum for England and Wales, but also such

[5] The Sex Discrimination Act – establishing the Equal Opportunities Commission – was passed in 1975 and the Third Race Relations Act – establishing the Commission for Racial Equality – was passed in 1976

recent initiatives as Creative Partnerships, it seems clear that it has had a great influence in some key areas. Most notably perhaps, by exemplifying the role that – specifically ethnic minority – artists can play in confronting prejudice and diversifying cultural experiences for all pupils and teachers. Where the project was judged less successful was in documenting, producing and disseminating material resources for use by other educators beyond the case study regions and beyond the active funding period. The evaluation publication reports that "many excellent models of pluralistic practice, curriculum packs and videos" were produced but even as a researcher, it is exceedingly difficult to access any of this material today (Eggleston 1995). Despite the national scope and influence of this project, there is no lasting illustrated publication which current and future educators can refer to.

In a U.S. context, Sleeter (1996) sees the genesis of multicultural education in the American civil rights movement of the 1960s, continuing the "challenge to America to live up to the ideals of equality and justice", but notes that even in the early 90s there were no learning materials which exemplified this approach as critical or political. In the same publication, editors Cahan and Kocur cite both this earlier absence of radical critique and, on the other hand, the lack of recognition for the active role art–making can play in such a critique, as motivation for *Contemporary Art and Multicultural Education* (Cahan and Kocur, 1996). This key publication is particularly significant because it not only sets out a critical and political argument for a particular pedagogic approach, it also includes reproductions of artwork and statements by contemporary American artists, all of whom bring different and in many cases hybrid cultural perspectives to their work. Additionally the book is a teaching resource, with the final third containing a series of lesson plans examining a range of issues (which in a British context would come within the *Citizenship* curriculum), through the examples of the featured artists' work. It is worth noting here that the stated objective for the book and for the Visible Knowledge Program[6] is to "build students' capacity for critical thinking, by exploring connections between contemporary art and broader historical, cultural and social issues." The accent in the curriculum plans is on media analysis, discussion and (verbal or written) critique, more than on creative production and in this sense, this particular North American approach is perhaps closer to the (British) concept of media education (see 2.1.3 below) than art and design.

[6] The Visible Knowledge Program (www.vkp.org) was the education outreach and online resource site (1999–2002), hosted by the New Museum for Contemporary Art, where lesson plans from *Contemporary Art and Multicultural Education* could be downloaded and student projects were documented. The outreach program is still running.

iniVA, who co–commissioned the DARE Web site, recognised the historical and political importance of the emergence and identification of movements such as the Black visual arts movement in the 1980s, in the evolution of a more diverse and inclusive view of British post–colonial art practice, but they also felt that it was time to move into a mainstream position where art–making and art–criticism could be considered for their formal and aesthetic merits as much as for their creators' cultural heritage. Examining the educational slide–pack resources which inIVA produced (Malik and Kennedy, 1995), it is worth noting that while there was a clear practical objective of providing images by contemporary artists from a range of cultural backgrounds, whose work was previously unpublished or inaccessible, another aim was to enrich the understanding and analysis, as well as questioning the history, of two very traditional art subjects – portraiture and landscape (see also 1.3.1). This tactic of taking a thematic approach, rather than one based on a chronological, geographic or discipline–based view, in order to question and complicate a received understanding, was one which resonated for me in my early thinking about how the DARE resource might be formed and used, a point on which I will elaborate later, in the issues arising from my initial research (chapter 3) and in the account of the Web site development (chapter 5)

2.2.3 Media Education

At this point I want to briefly mention a related field, which, though not part of art and design education, has some bearing here, namely the critical pedagogy of media education (Masterman 1985; BFI 1989, 1991; Buckingham 1990; Alvarado and Boyd–Barrett 1992; Ferguson 1995 etc.) Media Education focuses on the words, images and artefacts of popular culture, examining them as constructed texts to be questioned in terms of who or what is being represented, by and for whom. Through these processes of analysis teachers and students can seek to directly confront such issues as race, gender and class in society.

Unlike art and design, media education is not primarily taught as a 'creative' or practical subject, but is more focussed on conveying knowledge and understanding of a set of key concepts about the cultural and social dimensions of the media. In this sense it relates to contemporary art practice as studied through the framework of visual culture – rather than the more conventional (school) subject definition of art and design – but there is a direct relationship between the approach adopted by media education and the kind of deconstruction and inter–textual analysis found, for example, in the inIVA education packs (Malik, Kennedy, 1995).

In reviewing the various facets of these critically–engaged but creatively motivational approaches to art education, I have also tried to consider where the use of digital technologies (as a tool for production as well as de–construction) might fit. Currently media education is probably the only field of secondary education explicitly advocating a critical approach to new technologies, although it is confined to popular media (film, television, dvd, the Web) and has not, as yet, examined the semiotics of ubiquitous software packages such as *PowerPoint* (Microsoft Corporation © 1990–2006). I have been consistently struck by the absence of any critical component in statutory publications on the uses of ICT in art, or indeed any attempt to present a theoretical argument for such uses. In section 2.2.5, I will review what for me have been key texts in digital theory, particularly as these relate to the social and pedagogic uses of the multimedia and the Internet. I will then go on to summarise the emergence of net art as both an art form and a political tool, in so far as it relates to my study. But in this final paragraph on art educational texts I want to remark on what appears to be the chasm between a lively, evolving area of digital culture and theory and the stagnant, largely instrumentalist view of the digital in relation to (art) education in schools.

2.2.4 ICT in Art Education

ICT is now a required component of the National Curriculum but unlike other disciplines, it has no obvious subject tradition – although it draws on elements of computer studies, design and technology and business studies – and the ethos which supports it is primarily a skills–based vocational one. The subject is constructed largely around the application of hardware and software in various teaching and learning contexts throughout the curriculum, in order to facilitate or extend existing practice and acquire new technical skills, in preparation for work. Except within media studies, there is little recognition or critical examination of any notion of digital culture, or even what is often referred to as ‘the information society’, in the statutory guidance relating to the use of ICT in the curriculum.

Currently, within art and design, “pupils should be given the opportunity to apply and develop their ICT capability though the use of ICT tools to support their learning in all subjects…” (DfEE, 1999: 34). This brief guidance then goes on to list a number of ways ICT could be used in researching, selecting, developing, sharing and evaluating pupils’ work. While the available publications illustrating this are limited in scope and number, there are a growing number of Web sites run by statutory bodies, which give

guidance and in some cases provide links. However, information on uses of ICT in art can be difficult to access, links to other sites or resources (particularly those within Curriculum Online) are not always appropriate or available and a critical rationale is lacking. There have been some key theoretical publications which raise questions about the ideological and pedagogic arguments for using digital technologies in education (Sefton–Green, 1999; Ellis and Loveless, 2001). But while these have been influential in some areas (eg. in relation to various Arts Council and Nesta Futurelab[7] initiatives) they have yet to significantly impact on the way the DfES, the Qualifications and Curriculum Authority (QCA) and the British Educational Communications and Technology Agency (BECTA) are addressing the *delivery* of ICT in the curriculum.

The publications available to teachers exemplifying uses of ICT in art take a largely formalist approach examining a range of computer–generated imagery in the exploration of form and texture. The role of information and communication technologies as tools to research, record, duplicate, and modify images, to simulate visual and graphic effects or to embellish work produced in traditional media is well documented (Mathieson, 1993; Worrall and Davies, 1997; NCET, 1998; Grant, 2000). But a critical and contextual examination of the tools and technologies, beyond the basic use of CD–ROMs and the Internet as research sources, is rare. Two publications which begin to explore different territory here are Nicholls' *Pooling Ideas* (1997) and Davies, Pimental and Worrall's *Cultural Identity, Digital Media and Art* (2000) (see Appendix A3.6).

While these two publications begin to raise questions about the nature of digital technology in relation to ideas about creativity, communication and culture, they are very much on the periphery of mainstream school practice, which appears largely unquestioning (see Wood, 2003; Creating Spaces, 2003). In her critique of the NCET publication, *Fusion*, Meecham warned against an uncritical acceptance of an ideological concept like technological 'progress' suggesting "the art department is well placed to investigate, through art works, the possibilities and difficulties that our engagement with technologies can produce." (2000: 81). National surveys relating to the use of ICT are almost exclusively framed in terms of the effect on learning or achievement (DfES, 2001; Ofsted, 2002), and in the case of ImpaCT2, did not even

[7] Futurelab is a research and development agency for creative technology in education, supported by the National Endowment for Sports, Technology and the Arts (NESTA) who commissioned and published a series of new technologies literature reviews: http://www.futurelab.org.uk/research/lit_reviews.htm

include art and design in their review. The overall impression is that this particular area is a low priority for the statutory agencies as well as for many schools.

There seems to be an implicit political goal to produce evidence for a causal link proving that all the money invested in ICT has improved educational standards. But by relentlessly focussing on the narrow areas of standards, within subject–based knowledge, skills and performance, research is ignoring the broader (life–long) learning strategies and outcomes which might emerge from a more holistic view of the uses of technologies, in and out of school. As I have argued elsewhere (Sinker, 2000; 211–212), multimedia technologies and particularly the Web, are ideal for a lateral approach *across* the curriculum because they are constituted by links and networks. And as I have also argued, introducing the work of contemporary practitioners (digital and otherwise) is where educators might start to import the issues and debates which would have relevance to pupils' own experiences (Sinker, 2000: 192). Researching, creating and testing DARE provided the opportunity to apply these theories in practice.

2.2.5 On the Pedagogic Uses of Technology

There is a growing body of work published on the subject of online and distance learning, which a study of the development and production of a Web–based resource cannot ignore. However, even while the market for such publications is expanding – particularly at Higher Education – it should be noted that a great many of these publications are based on an instructional model of teaching.[8] Furthermore, it has been argued that some of the literature on open and distance learning uses the term pedagogy as a substitute for a design–delivery process whereby information flows (one way) from the computer–based learning environment to the learner/user (McWilliam, 1996). Web–based courses, modules or training usually imply an inbuilt structure or progression (which may or may not be designed in an instructional model), with a syllabus, a set of required components, defined learning objectives, a number of goal–oriented procedures, a suggested order of activities and some mode of assessment. While I am not suggesting this is a problem in itself (although some of those with a management–training approach and aesthetic frequently seem inappropriate to school or HE learning situations), I did not feel this model was relevant for the kind of art–based resource which I was trying to develop in DARE,

[8] See for example, Jolliffe, Ritter and Stevens, (2001) – which draws heavily on Dick and Carey's instructional design – Dick and Carey, (1990) ; Forsyth 1995; Aggarwal 2000; Horton W.K. 2000; Lockwood and Gooley, (2001); Rudestam and Schoenholtz–Read (2002)

organised around a set of resources with an infinite number of uses, interpretations and engagements by students and teachers. Nor did I feel it allowed for a pedagogy in which knowledge is seen as a dynamic form of cultural exchange. Therefore, I make few references to this area of literature.

At an early stage, I took the decision not to develop materials in the form of course–work or lesson plans, instead opting for a more flexible, exploratory approach at least in part, influenced by my experiences as a user/participant of artists' Web projects. The extent to which this was a valid decision will be examined in the concluding chapter. However, while the various books on the design of online learning materials were not, ultimately, my key references, several of them alerted me to practical considerations which I will go on to highlight in chapter 5 (see; Horton S. 2000; Brooks et al 2001; Dorner, 2002). Amongst all the literature advocating the advantages of e–learning, digital classrooms, cyberschool etc, there are remarkably few publications which aim to critically appraise the pedagogical use of online media. One such, *Enquiries at the Interface* (Blake and Standish, 2000), has become a key text for this study because it addresses similar questions to those which I have identified as the starting point for this research in the introductory chapter (1.1).

On the question of computer literacy and what that might amount to, Blake and Standish consider a richer sense of literacy, which is measured not simply by achieving basic reading levels but in the exercise of "critical sensitivity and cultural breadth." (2000: 10). They go on to argue,

> …a person's literacy in this sense is in some degree deficient if the world of information technology remains for her a closed book. Educators need to address the structures and the semiotics of the Web in a critical way, the better to assess the kind of pedagogy it might sustain. (ibid: 10)

This view largely accords with that of Buckingham, who suggests that through their informal uses of computers, children are experiencing a range of learning processes in various social contexts. What young people lack is "easily available support and advice" that might enable them to "use these media critically and creatively" and he goes on to say that school must play a central role here (2003: 176–7).

Blake and Standish and Buckingham's arguments about literacy relate to the need for what Haas (in another of the key texts for this study), in a different context, terms

‘technology studies’. A holistic and symbiotic model for the relationship between technology, people and context, is usefully explored in relation to writing, by Haas:

> …understanding the symbiotic relationship between writing – in all its forms as cultural practice, social interaction, and cognitive process – and the material technologies by which writing is accomplished (from clay tablet to laptop) will require not just scholars from a range of disciplines pursuing related questions, but, at the very least, a conscious attempt to learn about and take into account what other scholars do.” (1996: 28)

Haas is arguing that in order to not just remark on the effects of technology on changing writing practice, but also to examine and even understand them, we need to address writing in its personal, cultural, material contexts. Moreover, she suggests that this requires us to look *at* rather than *through* the technology and to take into account the way uses of technology and of writing are conceptualised and theorised in a range of disciplines.[9] This was the first text I encountered which specifically argued that interdisciplinary research was the only way to really understand how technology was both influencing and being affected by practice.

In *Writing Technology*, Haas notes that ICT is frequently viewed as a neutral tool for the consumption or production of information or as a set of skills to be acquired. This fits in well with the consumerist approach to information design and delivery, where the ‘user–friendly’ transparency of the medium channels attention towards the content. But we know from McLuhan amongst others that the medium is implicated in the content so should we not be considering how and why a message is conveyed in order to achieve a fuller understanding?

2.3 Digital Arts Practices

Artists whose work incorporates or employs digital technology in some way, may work within and across a whole range of distinct disciplines, practices and spaces both traditional (for instance theatre) and more recent (such as the Internet). In her study of new media art, Middlebrooks identifies three main categories (Middlebrooks, 2001: 4): Computer–based art, which dates back to early sixties and seventies pioneers such as Lillian Schwartz, Vera Molnar and John Lansdown, and is created by and exhibited on computers; Network–based art, which is designed specifically for

use on the Internet (see section 2.3.1 on net art, below, for a more detailed examination of this practice); and Science–based art, which employs computer software or processes but has a non–digital science–related outcome. An example of this kind of work would be Eduardo Kac's *Genesis*, where remote online interventions by users changing light emissions in a gallery, affect the DNA mutations of bacteria in a Petri dish, placed below the lights. Within (and across) these fields, Middlebroooks examines what might be the unique characteristics and emerging trends in such practices (such as the endless mutability of the media, its immaterial nature etc), in particular considering whether these represent a significant change or a continuity in form and/or process. While I am not sure that I would limit a definition of new media art to just these three categories, in the context of this study – examining the Internet as a space for making and learning in the context of art – I will mainly concentrate on the second, Network–based, or net art.

2.3.1 Art on the Net or net.art.

From an early stage, artists, writers and activists recognised the opportunity for promoting work and sharing ideas through the Internet, a space which did not rely on the validation of mainstream publishing and broadcast media corporations, nor the permission of cultural institutions and government bodies. But even while the radical potential was recognised, and in some cases exploited (see below), the Internet was more often a way of doing conventional things using new technologies. Pariser notes:

> Any artist can create a Web site. The World Wide Web is an open forum where there are no quality controls, no art establishment guidelines to adhere to, and no institutional acceptance is required." (2000: 62).

This apparent openness and lack of institutional judgements or criteria, which might otherwise inhibit the publication and display of work or ideas, is certainly what attracts many people, not just artists, to utilise Web space. In particular it gives space to those who have felt outside or excluded from mainstream cultural or political establishments. By the same token, audiences who have looked for work which represents a marginalised cultural, social or political viewpoint, possibly mirroring their own (which could just as likely be reactionary as revolutionary), might seek such work through the Web if they fail to find it in books, galleries, museums or other

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[9] Haas draws much of this argument from the theories of Vygotsky (1981) whose concept of sign systems included speech and writing, as well as mapping, diagram–making and even works of art.

educational or social institutions. Some of this work is originated in digital form but much of it is re–produced online as a document of non–digital work.

There is a further use of the Web by artists which Pariser does not cover in her brief review of art on the net, namely a collection of works which has become known as net art. This work may or may not exhibit self–referential characteristics which display the artists' identity. Like all labels the term net art acts as an easy catch–all for a wide range of artists and practices whose common factor is that they use the Internet as the platform for their work, for example: ®TMark (http://www.rtmark.com pronounced artmark – insert screenshot here) solicit activists online for direct action projects working within the framework of the commercial market; Olia Lialina has made works of a more humanist nature relating to universal issues like war and death (insert screenshot here); while the artist duo jodi (www.jodi.org – insert screenshot here), work on a programming level to re–composite the users' screen environment, occasionally in alarming ways. Just as performance artists in the 60s created events and happenings as a form which implicitly critiqued the academic and commercial institutions of the art world, so net artists have created work online which continues that movement of critique and extends it to a (potentially) global non–art audience.[10] In that sense the work is both site and media–specific, moving visual culture theory into a new realm.

What many of these contemporary artists have in common is a deliberate examination of their medium in exactly the way Haas proposes. In discussing a number of artists who have reconfigured the aesthetic and operational conventions of the browser, Paul concludes that they all "allow us to experience the network in a way that is radically different from the one provided by preconfigured and corporate portals." (Paul, 2003: 120). Clearly this kind of spanner–in–the–works approach is going to be a difficult tactic for school art departments to adopt in their use of digital media. But I would argue that this point of view, which determines that we look *at* as well as *through* the media we utilise, is a necessary part of educating through as well as about contemporary art.

2.4 Art–Practice–Based Research

[10] See Paul Brown's essay, *Networks and Artworks: the failure of the user–friendly interface*, (Brown, 1997) for a more detailed look at how telematic artworks have their roots in the conceptual and performative critiques of the 1960s.

The practice/theory research degree model at Middlesex University, of which this study is an example, bases its rationale in part on a growing field of theory in art–practice as a form of research (Newbury, 1996; Raphael, 1997; Gray and Malins, 1999; Candlin, 2000; Payne, 2000; Kiljunen and Hannula, 2002).[11] Büchler identifies the difficulty in defining what research means in the context of art (and particularly 'the art school.') He suggests that the recognition of 'research *through* practice' has allowed for the practical acceptance (in administrative terms if not in ideological ones) of artists' research, but suggests this still leaves unexamined the place and purpose of experimental, research–like practices within the academy.

Because DARE, the creative, practical element of this study, has a function – as an educational resource – which can be evaluated against a set of aims or ideals, perhaps these questions and arguments should not trouble me. But I suspect some of the arguments for why the aims of art and academic research are entirely separate, relate to the reason why the experimental, research–like practices of many contemporary (including digital artists) remain unexamined within schools – namely what is deemed 'appropriate' or 'of value' in institutional contexts. I will go into this area in more detail on the forthcoming chapter (4) accounting for my (mixed) methodology, considering the relationship between making and research and how I used this body of work and practice-based research as a reference and model for my own decisions in creating DARE.

2.5 Concluding Notes

This broad (and necessarily condensed) review of texts on aspects of contemporary – including net art – and education, has shaped how the form, content and context of the DARE project developed. Take the various approaches to art education (2.2 – 2.2.4), their evolution and how they might serve contemporary and future education systems: there is more here than just exposing students and teachers to a broader range of images and artefacts, beyond the traditional Western canon, or simply encouraging all young people to express their own experiences, viewpoints and identity through making work. An argument emerges for an inclusive continuum where students' own personal creative development occurs alongside a process of reflecting on and engaging with a broad spectrum of visual culture, from different

[11] For a comprehensive list the Research Training Initiative (RTI) at Birmingham Institute of Art & Design has a very useful bibliography at http://www.biad.uce.ac.uk/research/rti/rtrc/bibliography.html

cultural and historical perspectives, while considering the power structures and the technical mediation which inflect how such works are constructed and represented.

What art education has consistently failed to do in the classroom is engage effectively with the contexts in which art is made, displayed, experienced and sold, although there are signs that may slowly be changing. Understandably perhaps, this failure is particularly true of the most recent art and none more so than the works of digital artists. I would argue that this relates to a broader uncritical perspective regarding all aspects of ICT in education.

The Internet presents the opportunity to access the work and ideas of artists, not easily accessible for students or teachers by other more traditional means, simultaneously existing as a forum for young people to experiment with and publish their own creative products and personal perspectives in the same cultural space as professional practitioners. It also seems to offer the opportunity to critique both this work and the context of its publication and consumption. The work of those net artists cited above might be a promising place to start such a project.

However the review also raised a number of questions, not least whether art and design can take this approach alone, without the reconceptualisation of the entire ICT curriculum. Also, given the increasing time pressures, how much are students and tutors prepared to give to what could be seen as a theoretical or conceptual aspect of one of the few subjects where students can still be creative through practice? Moreover, assuming digital arts are recognised as a form of creative practice, what sort of engagement do students, teachers or indeed anyone else have with net–based art projects, competing for time in the 'economies of attention'? (Lanham, 1993; Golhaber, 1997)

Leaving these questions aside for the moment, in the next chapter I will identify some of the key issues which have been raised by this interdisciplinary review. I will consider how a Web–based art resource might support and foster a critically engaged, creatively stimulated student. In particular I will consider how the development and production process might address the interlocking issues of aims, access, content, design and use.
(7858)

Chapter 3. Issues Arising from the Literature and Media Review

In the previous section I reviewed the current and recent arguments for engaging with contemporary art in education, for developing a critical and multicultural approach to education and for working with ICTs in art and design. I also examined how artists had worked with digital, specifically online, technologies to develop a form, which has become known as net art. Here, the site of the work and the means of production are central to the meaning and reception, moreover it could be said that such work assumes a *critical* viewer/user/participant. In this section I consider the key issues arising from this review.

At this point I want to return to a question raised at the start of my research (1.1): whether and to what extent digital technology can provide a model for learning through and about contemporary art. This question really underpins the development and evaluation of the DARE resource, with the background information from my review, providing a context and a filter. The resource development was crucially informed by the contextual review – and later by my research question – but it was also influenced by the agencies who commissioned the project: inIVA and Middlesex University and, to a lesser degree, the Arts Council of England, as well as the individuals who steered the project's development. To a great extent I was given autonomy in the creative development of the work but where any decisions were taken, specifically to meet or accommodate an institutional agenda, I will make this clear, both here and in chapter 5.

So, is it possible to create a model for learning, using the characteristics of digital technology, as evidenced by the work of artists, for a user–group of teachers and learners? In the following sections, I will try to interrogate this question, summarised and organised under the headings of **aims**, **access**, **content**, **design** and **use**. Some issues belong under more than one heading and these sections cannot be neatly separated: interacting with each other in a number of ways. The value of these distinctions, however, is that they allow me to move across the disciplinary fields which I have used to organise the previous chapter (critical pedagogy; art education; digital arts), thereby showing how each has contributed to the process of developing the various facets of the resource.

A critical pedagogy is premised on questioning received knowledge and on the idea that acquiring knowledge is a transformative process (for the learner, the teacher and

for what constitutes the knowledge), which is also affected by the context. Digital media has its own transformative properties which equally affect the user, the content and the context, for instance: distances which separate people (geographically and culturally) appear to collapse through communication media such as email, chatrooms, video–conferencing and online gaming; processes which used to require the presence of a human operative can be effected remotely by machines and electronic signals; skills which had been the preserve of a small number of experts can apparently be acquired and exploited by large numbers of 'amateurs'; ideas, which could previously be controlled and suppressed by governments or media organisations, can leak out and reach millions through the Internet.

Hierarchies break down, values alter, concepts change and in the spaces left by these shifts and ruptures, questions arise. One of these has to be, what has changed? But this simultaneously contains the question, what is the same? One problem with the term 'new technology' is that it is often used to represent progress, a new and better way of doing, when what it might be is a different way of doing the same thing, or even a worse way of doing the same thing. To evaluate this we need to critically examine why we are using a particular technology (or set of technologies) in any given context – what it affords us. This kind of critical thinking surely has to be part of any technology–based curriculum and, in order to learn and apply such knowledge, it would need to involve the uses of technology beyond the immediate tasks and applications of the classroom.

3.1 Aims

Bigge and Shermis' summary of Bruner's arguments from his 1960 work, *The Process of Education*, (Bruner, 1960), suggests that it is not the facts or techniques of a discipline which should be the main focus of the students' education, but the theory, philosophies and principles and, crucially, the subsequent meaning these acquire for the learner in wider social and cultural contexts.

> Bruner's principal concern is with how people actively select, structure, retain and transform information and how they go beyond discrete information to achieve generalised insights or understandings. He has great interest in how people adopt models of reality from their culture and adapt them to their individual uses. His "models" are expectancies and expectancies are insights. Bruner thinks that study of the intellectual structure of a given discipline

> provides the best way of teaching students to think. (Bigge and Shermis, 1999: 255)

This is learning as a transformative and critical process, and one of the key issues arising from the review is to create a resource constructed around this principle.

In concluding the previous section, I identified the need for a holistic, reflective and critical art education, which incorporated the widest possible range of images and artefacts from cultures past and present, allowing young people to develop their own creative work and ideas while engaging with work within a wide cultural context, considering social conventions, technological developments and political and economic systems (2.4). A challenge, certainly, but not an entirely new idea, as we have seen. In McClaren's review of the major concepts of critical pedagogy he summarises Giroux's distinction between the *macro* and *micro* classroom objectives of learning for understanding in this model (see Giroux, 1979).

> *Macro Objectives* are designed to enable students to make connections between the methods, content and structure of a course and its significance within the larger social reality." (McClaren, 2003: 71) He characterises the need to convey content – such as names, dates, debates, conventions etc as *Micro Objectives*. He sees this as a way for students to organise data, what he terms, *productive knowledge*. *Macro Objectives*, on the other hand have the purpose of enabling students to "recognize the social functions of particular forms of knowledge…" a process he refers to as *directive knowledge* – thereby permitting them to "…examine the underlying political, social and economic foundations of the larger society (McClaren, 2003: 72).

I have previously referred (2.2.5) to Buckingham's arguments for digital literacy, which centre on a critical framework to support students' home and school use of new media technologies. He cites a collaborative, multimedia art project which I was involved with in a primary school in 1996[1], exemplifying how working with digital media could open up both creative and critical avenues for young children. He also uses this example to illustrate what he sees as the key differences between digital

[1] *The Rosendale Odyssey* was a multimedia project involving Rosendale Infants School and its community, organised by The Photographers' Gallery, London, which ran from Oct 1995 – Dec 1996. It culminated in an exhibition at the gallery and a website, now archived at:
http://www.photonet.org.uk/programme/projects/rosendale/rosendale.html
For more information on this project see (Sinker, 1999: pp 22–31; Sinker, 2000: pp 187–215)

literacy in the contexts of the media education and visual art traditions. The first of these differences relates to content: media education is primarily concerned with the popular cultural forms which young people regularly encounter, rather than what he calls an “alien artistic… practice.” (2003; 180). The second is the element of critical theory. “In the context of media education, the aim is not primarily to develop technical skills, or to promote ‘self–expression’, but to encourage a more systematic understanding of how the media operate, and hence promote more reflective ways of using the media.” (ibid: 181). This distinction is key because while he refers to both the craft–skills approach to art education and to the more expressive approach – both noted in my earlier review (2.2) – he fails to acknowledge that there might be a form of art practice and art education which imbeds a critical process *within* and *through* making.

From my own experience, working on the project Buckingham cites above, I watched the artist Shona Illingworth work with the children to make hypermedia narratives. An experienced video artist, Illingworth was a novice when it came to using the multimedia authoring software *Hyperstudio* (Roger Wagner Publishing Inc. © 1993–1998). She frequently adapted to the children’s trial and error methods when they were designing and constructing their productions, where discursive talk about ideas, editorial, technical and creative decisions were a central part of this process. In this sense it was very close to a studio art or design practice, rather than an instructional method of learning key skills, or a theoretical analysis of media texts. In addition, the focus of the project – on the children’s own personal identities and cultural histories – helped foster an interest in each other, as Illingworth noted: “It was very interesting to see how the project worked towards giving children a greater understanding and allowed them to develop an interest in each other’s (cultural) experiences and also, at that age, to see a kind of pleasure in diversity appearing.” (Sinker, 1999: 27) This method of working on aesthetic and critical ideas, *through* practice, is a recognised model within art and design traditions, and can evidently be applied, even when working with young children. It is not exclusive to using digital technologies but several characteristics of these media do in fact support this pedagogic model:

- The divisions between expert and amateur or teacher/learner are less distinct when the applications of this technology are relatively new to all participants.
- The aesthetic and stylistic conventions of this media are less fixed that in older media such as drawing, painting or writing, allowing for a playful, experimental approach, borrowing and juxtaposing various forms.

- Multi–media environments and texts lend themselves to the possibility of quoting, sampling, linking and cross–referencing, thereby offering routes out of school subject–specific confines, and making possible a visible research and development process.

In looking at the issue of learning as the transformative process of acquiring and creating knowledge, we can see that critical tools are required to model, test and adapt ideas within a range of contexts. Educators such as Giroux and Buckingham suggest that school is one key place to support and refine these critical abilities. Considering the particular discipline of art raises a second key issue in relation to the aims of this project, but one rarely addressed by critical pedagogy. That is, to recognise the active role of making as a critical tool and to acknowledge those artists who engage with critical theory (whether socio–political or aesthetic), through their practice (Hiller, 1998; Walker, 2001; Sullivan, 2005). This point is made by Cahan and Kocur, when they discuss the work of artist Juan Sánchez.

> Sánchez's complex iconographies function as signs of resistance to colonialism and all forms of oppression, insisting upon the complexity of cultural identity and the power of self–representation…(Such art) is a form of primary source material for interdisciplinary education in which art is understood as both a product of history and a potential agent for social change. (Cahan and Kocur, 1996: xxiii)

3.2 Access

In section 2.2 – 2.2.3 I have outlined the evolution of a number of proposals for a more culturally diverse and critically aware art and design curriculum. However, the resourcing and teaching of this requires access to materials or working methods, which most teachers and pupils will find difficult in schools. Where projects have occurred which have tried to address this, for example the previously cited AEMS project (2.2.2; Eggleston, 1995), they have frequently failed to document or disseminate materials or resources beyond the project participants. Individuals on the DARE steering group, from inIVA, Middlesex and the Arts Council all felt this was of key concern. Therefore, in relation to the question of access, one of the issues to address is the documentation and dissemination of material resources in an accessible form, for current and future use by a wide educational audience.

The conception of the DARE project (1997) and the evolution of the resource was premised on the belief that, in time, all UK pupils and teachers would have access to the Internet. However, when this project began, this was not the case, particularly in the context of art and design work. For the purposes of this study, I was particularly focussing on access within schools, though there were instances when home access – or the lack of such – was also relevant (see feedback in chapter 6). I conducted an informal survey of the 40 art departments of secondary schools with partnership links to Middlesex University and this small sample shows that from 1999 – 2002, there was little or no access to the Internet within the art department (see Appendix 4). Since this project began, virtually all secondary schools have achieved Internet connectivity (99.9% by 2004 – BESA, 2004). A national survey implemented by the Clore Duffield Foundation found just over half the secondary school art departments who responded claimed direct online access but more than 70% said they had to book computer time (Artworks, 2001), while the 2002 Ofted report on ICT in Schools declared "in only a minority of departments is access to the Internet possible." (Ofsted 2002: 9). The more recent BECTA report on the use of ICT in art and design suggests that access to the Internet was particularly effective when teachers/pupils needed to find information or images in relation to artists they could not find in the school or local library. "It came into its own especially for studying new or relatively obscure artists whose work might not feature in print media." (Woods, 2003)[2]. The Web can now offer access to work and ideas of a diverse range of artists to exceed the school's own art department or library resources and to complement and extend the possibilities offered by galleries, therefore for this project, the decision to create an online resource seems justified. But, as Lelliot et al suggest, "the educational possibilities of ICT are constrained or enabled by the technology and the curriculum it transmits and by the context in which it is received." (Lelliott et al, 2000:56). Usage will always be contingent upon the means and place of access, the material featured and the extent to which it can be effectively engaged with. With regard to featured content, I look into this in more detail below under 'content' (3.3.2), while effective engagement relates to the section entitles 'use' (3.5).

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[2] It is worth noting that while this is a national report, the sample in relation to art and design is both small and select. "The first study in 1998–99, involved 120 teachers who used computers innovatively in mathematics, science or geography at Key Stage 3. It was funded initially by Becta and ultimately also by the DfES and several companies. A panel of subject–matter experts and government education officials chose the teachers from a larger group of nominees. The second study involved 100 teachers (including roughly a dozen teachers of art and design) who rated technology highly and whose pupils achieved better–than–expected results in national examinations." (Wood, 2003: 1)

So, in addition to the basic question of Internet access, there were a number of sub–questions to consider which relate to means and place of access:

- Is access to the Internet direct or via a school or local authority gateway system?
- Is it within the art department or somewhere else in the school?
- Is it unlimited or limited to booked time slots?
- What sort of connection (modem dialup, ethernet network) is it and how up to date is the hardware and software?

These issues are further complicated by the questions of teacher competency and confidence and technical support within the school or local authority (discussed further in 3.3.1). Initially my information had to come from the small scale survey which I had conducted locally, but later I was able to use information from national surveys such as Artworks (2001; 2003) and from the DfES IMPACT 2 Report (DfES, 2001), which largely confirmed my own preliminary findings. Initial evidence showed that Internet access was very patchy, via old computers and telephone modem links within the art department, or via slightly more robust networked links within computer suites, which could only be booked in advance for limited periods. Browser software and plug–ins were often older versions, so images and dynamic elements were slow to download and media elements (such as video or sound clips) were largely inaccessible. My experience at Windmill School revealed, first hand, that even when a school is willing to upgrade and commit necessary funds, implementing such changes can be a very slow process, involving inter–departmental and external negotiation and bureaucracy. While having no control over the means of access for end users, this knowledge did affect a number design decisions, which are elaborated on in chapter 5.

In the following section on content (3.3 – 3.3.3) it will become clear that access is not simply a matter of physical (or even virtual) access to the material. It also refers to understanding and engaging with the content, those ideas and concerns which the artists articulate or problematise, as well as the means by which they choose to express themselves. So another key issue here is to facilitate conceptual access, through the content, design and use of DARE.

3.3 Content

In essence, the questions here are what material to focus on and how to select it? To some extent this was pre–ordained by the project commission and the involvement of

inIVA, which emphasised the lack of available resources featuring living artists, coming from diverse cultural backgrounds (in British as well as international contexts), covering a range traditional and emerging art practices, including but not exclusive to, the digital. That said the resource is organised around themes (see 3.4) so the artists chosen should reflect and enrich these. Furthermore, noting Swift's entreaty in relation to 'our cultural heritage' (see 2.2.1), it is important to be wary of creating an 'alternative' canon, to be aware of both contemporary and historical biases. The particulars of the research, selection and organisation process will be covered in chapter 5, but having outlined the basic parameters for the content, it is worth reflecting on why this content focus is so important.

As identified (2.2), the move to incorporate contemporary art practice and theory into art and design education has been slow. "For all one's conviction that the world should be open to knowing, there are certain forms of knowledge that one fears. So it is with the subject of art and man's relationship to art as creator or beholder." (Bruner, 1962: 60) For Bruner, this fear is centred in the idea that in the process of explaining or understanding, we might lose or mask the meaning(s) (and pleasure) of the symbolic work, which function(s) on the level of metaphor. Perhaps this fear is at the heart of a possible reluctance to embrace critical and contextual studies, and especially those artworks whose form and substance appears to rely more on an intellectual engagement than an aesthetic appreciation? Given our knowledge of art movements and theories at the time when Bruner wrote this, his feeling might relate to the prominent modernist belief, whereby the artwork speaks for itself (Fried, 1965; Greenberg, 1965), as well as to an older Romantic tradition that required the viewer to stand in rapt contemplation before the artwork, in order to intuit its power and beauty. First voiced through the avant–garde movements in the early 20th century, but particularly with the eruption of Pop Art in the 60s and then feminist and other issue–based works emerging through the 70s, 80s and 90s, the question of how art functions as part of culture, language and society, both endorsing and disrupting, moved centre stage. Following this, and particularly in light of such influential theoretical works as *Ways of Seeing* (Berger, 1972) (significantly a television series before it was a book), it seems difficult not to address these cultural, social and semiotic questions when considering art, artists and their motivations. As artist Eduardo Kac notes in relation to the art and technology "The social impact of the telephone sparks the idea of art as a dialogue, going beyond the notion of art as object–making." (Kac, 1992: 215).

And yet, the predominant models for teaching and learning in schools have remained the craft skills and the expressive arts approaches, where observational drawing and painting have dominated, while studying the work of artists has often been confined to the canon of male, Western European painters and sculptors. Even while the situation may be improving, the status quo is sustained by a number of conditions:

- A lack of opportunities for teachers to update their professional knowledge and (consequently) a lack of confidence in engaging with unfamiliar theoretical issues or new practices.
- A lack of access to contemporary art resources in schools and a lack of appropriate space to explore different processes.
- A perception of National Curriculum constraints and examiner bias (that references to contemporary practice will neither be understood nor rewarded).

3.3.1 Updating Professional Knowledge of Practice and Theory

A number of art education professionals cite the removal of local authority art advisory posts as a key problem with regard to this point, because these posts were often the source of specialist support, training and advice (Harland et al, 2000). While there are new schemes in progress (such as the NSEAD/Arts Council Artist–Teacher scheme[3]), designed to give teachers the opportunity to develop their own practice and reacquaint them with contemporary criticism, these are only available to small numbers of teachers, with limited regional access. At a DfES event for Art and Design Advanced Skills Teachers[4], where I gave a presentation on *The Uses of ICT in Art and Design*, there was extremely wide regional variation over the support given to these specialist teachers and over the time they were able to commit to supporting less experienced colleagues within and beyond their schools. As noted (2.2.4), in regard to experience with digital technologies the NOF training was seen as largely inappropriate to the specific needs of the subject. In many cases it is not a lack of interest, but a lack of confidence in how to effectively use unfamiliar tools or engage with seemingly complex new works, which inhibits teachers (see 3.3.3 below). Both in–service training and readily accessible examples of practice would begin to address this.

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[3] NSEAD/ACE Artist–Teacher Scheme, creates opportunities for teachers to develop their practice in the context of contemporary work and ideas, at 11 centres in Britain. <http://www.nsead.org/cpd/ats.aspx>
[4] One Day DfES Curriculum Conference for Art and Design Advanced Skills Teachers, London, 28th Jan, 2004.

Those involved in steering the DARE project at Middlesex were convinced that teacher education offered an opportunity to effect change in pedagogic practice. Unfortunately there is little available data to examine how a newer generation of teachers (those currently on PGCE courses or newly qualified teachers (NQTs)) are able to bring their more recent contextual, theoretical and technical skills into the classroom. Anecdotal evidence from Middlesex University students suggests there is still a gulf between their undergraduate or professional art and design experience, and most of the curriculum–based work undertaken in school.[5] But there are signs that in some schools, NQTs or PGCE students are seen as a great asset, precisely because of such contemporary knowledge (Creating Spaces, 2003).

3.3.2 Lack of Access to Contemporary Art Resources

Artworks: The National Children's Art Awards, in association with the Clore Duffield Foundation (supported by the National Society for Education in Art and Design (NSEAD) and the Association of Advisors and Inspectors for Art and Design (AAIAD), commissioned a survey of art resources in primary and secondary schools and the annual state spending on art and design in schools: the so–called "£2.68" report (2001). This report shows an average annual expenditure per (English) secondary school pupil (covering all art resources including books, materials, hardware and software) of £2.68. In relation to point 3.3.2, what the report also makes clear is that even while the majority of secondary schools have some spaces for specialist provision, for instance 84% for ceramics, 53% for 3D work, they obviously have very little money to support work in these spaces. In the case of ICT, the statistics reveal that while 25% of art departments have computers to hand, many of these are older, less powerful models, which are unable to cope with image processing software or interactive CD–ROMS. Teachers' comments reveal a clear lack of confidence and expertise in the use of ICT, with little training and less time available to address this.[6] (Artworks, 2001) While there is no research available on what print–based resources are available, this study implies there is very little to spend on updating the art and design section of the library and, from anecdotal experience, I know they are generally impoverished and dated. The report's breakdown of the statistics for art

[5] Based on informal feedback discussions with PGCE students, between 2000–2005. It was beyond the scope of this study to carry out a more detailed or strategic study here.

[6] In terms of the scope of the report, it states that **All secondary schools in England and Wales were mailed – a total of 5,296 schools of which 443 replied (an 8.4% response rate). Schools in Scotland were also mailed – a total of 409 schools of which 36 responded (an 8.8% response rate). Except where indicated, this report is based on the replies from the state secondary schools in England and Wales. The responses came from schools across 145 local education authorities (LEAs), with 131 responses (30%) coming from 13 LEAs (Cornwall, Dudley, Essex, Gloucestershire, Hampshire, Hertfordshire, Kent, Lancashire, Northants, North Yorkshire, Surrey, Warwickshire, and Worcestershire).*(Artworks 2001: 11)

educational CD–ROMS reveals the top ten mentions, with the National Gallery coming out a clear favourite:

CD ROM NAME	Number of Mentions
National Gallery	90
Encarta Encylopedia	31
20th Century Art	27
Escher Interactive	24
Tate Gallery CD Rom	23
Great Artists	11
Le Louvre	11
Microsoft Art Gallery	10
Picasso	8
Art Gallery	8

"Art Connections", a CD–ROM produced by Cartwright Hall in Bradford, featuring work and contextual studies material by a culturally diverse group of contemporary artists received 3 mentions. There were no CD–ROMS by digital artists.

This same Artworks survey noted that just over 33% of schools are making links with their local galleries, creating opportunities to engage with exhibitions and artists, which is positive although it does indicate many do not have this opportunity, a point also noted by the most recent QCA review of Art and Design education (QCA 2005).[7] Another report, based on surveys between 2000 – 2003, showing the most popular ICT resources used in Secondary Art and Design, confirms the Artworks report findings for Web and CD–ROM usage, suggesting The Artchive www.artchive.com, The Artcyclopdia www.artcyclodia.com and the National and Tate Gallery Websites were the three most commonly used Web resources. No artists' Web sites or net art projects appeared on this list (FischerTrust). However, beyond these favourites, the Artworks report survey does list a wide range of sites, including (living) artist's own Web sites, contemporary and digital art galleries, theory reference sites and even DARE, all with one mention each, suggesting individual teachers are beginning to explore and exploit the diversity of the Web.

3.3.3 (perception that) Examiners and the National Curriculum are Biased Against Contemporary Artists and Practices.

[7] It will be interesting to see if the Creative Partnerships initiative has a positive effect in increasing these numbers.

Although teachers often mention this issue of examiner bias (Downing and Watson, 2004) the Head of Art at Windmill School, felt that it is more a perception than a reality.

> I don't think there is a problem with the exam boards, it's a problem with stepping into the unknown, maybe trying something different. Our moderator and in fact our OFSTED inspector said, 'you're using artists I've never heard of, this is fantastic, I've learned something today. (Sinker, 2001: 37)

However, this same teacher did comment on the time pressures caused by exams and OFSTED, and time pressures and assessment targets are something which most art teachers identify as a constraint on their practice (Artworks, 2003; Creating Spaces, 2003; NFER, 2004). The recent NFER survey (Downing and Watson, 2004) uncovered arguments for and against the view that the curriculum itself constrained classroom practice. Some felt that it was in fact a reasonably flexible framework and that the problem was with orthodoxies in teaching and overemphasis on a notion of 'heritage' (Burgess, 2003; Binch, 1994). Others saw the curriculum as privileging one way of thinking about art (where theory and practice are very separate), and that practices which involved, risk, experimentation, critique, collaboration or new forms of work could only happen with a radical rethink of how art is approached in schools, presumably at government policy level (Long, 2001; Pringle, 2002).

We have uncovered some of the barriers to including contemporary art practice and theory in art and design education. Could digital technologies be employed to help break some of these down? Through the Internet, teachers can certainly broaden access to diverse content and this is certainly a key issue raised by the problems noted in 3.3.2. However, if a particular school has not yet begun to consider the contested areas in a post–modern approach to art, it seems highly unlikely that their use of ICTs in this context will be any more progressive. Explored under the banner of content, this section actually raises a number of questions relating to conceptual access. Where neither teachers nor their pupils are familiar with such work and concepts, how could an online resource begin to bridge these gaps? What material should be featured on the resource – artists, ideas, references, debate – and how should it be selected and presented? Would targeting PGCE students and newly qualified teachers as users of DARE, help bring about a change in schools?

It seems clear that adherence to orthodox ways of thinking about or presenting art is one of the inhibiting factors in moving practice and debate forward in schools. Therefore a conventional (print) publishing, exhibition, archive or scheme of work model would not be appropriate for a Web resource seeking to address learning through and about contemporary visual art. The issue here then is to adapt the more site–specific uses and arguments for the net – as medium and message – in the context of art education/education through art. This last point, on the integration of form and substance, is linked to the question of design.

3.4 Design

Curating the content for DARE happened simultaneously with the consideration of another key issue, relating to the design (and use): how to structure such material in order to raise questions in the mind of the user? (see aims 3.3.1). In chapter 2, I talked about the decision by the authors of the inIVA *Portraiture and Landscape* art education packs, to organise the material thematically rather than chronologically or by medium. The original commission for DARE – devised by Middlesex University and inIVA in 1997 – had also suggested a thematic arrangement (1.2.3). At this point, existing examples of art resources on the Web used chronological, art historical, geographic or alphabetical frameworks for structuring the contents e.g. The Web Museum http://www.ibiblio.org/wm/paint/ and the National Gallery www.nationalgallery.org.uk so a thematic architecture was already a departure from other models. In non–digital formats, besides the inIVA education packs (Malik and Kennedy, 1995) and The New Museum publication (Cahan and Kocur, 1996), only one other thematically structured art education resource seemed to effectively incorporate critical, contextual, historical and practical elements: *Masquerade*, a printed pack on the theme of Carnival in Europe and the Caribbean, was created by the Visual Learning Foundation but is out of print (Cam, Elia and Lawlor, 1998).

Many of the early examples of Web publishing mimicked familiar forms of print (books and magazines), audio–visual media (e.g. slide–shows), or data–bases (e.g. library catalogues) in both onscreen layout and formal structure.

> "User–friendly tools work by adopting paradigmatic metaphors. In essence they tell the user 'there is nothing new to learn; your existing knowledge and skill can be applied to these new systems'." (Brown, 1997: 106)

He suggests a different concept must emerge, for the architecture and design of online works, if people's attention to the media and tools (looking *at* rather than *through* the technology and its contexts of use) is to be engaged in the way argued by Haas (Haas, 1996).

My own experience of using the Web as a platform for art projects confirmed its suitability for making lateral approaches *across* themes, subjects, states and other categorising frames or borders, because it is constituted by links and networks (Gómez–Peña,1996 ; Sinker, 2001; Paul, 2003). Therefore links within and outside a site, making (possibly unexpected) connections, could be one way to raise questions in the user's mind.

In the context of online learning, Blake and Standish critique certain structural metaphors of the Web which they suggest influence how learning is conceptualised by educational producers and users.

> "The standard category of 'page' on the Web encourages a conception of texts as units within a system in a way that corresponds with an atomisation of knowledge and with a unitisation of learning… This makes it all the more probable that learning will be conceived in terms of systematic progression along the lines of programmed learning… (rather) than in terms of less clearly defined flows of meaning." (Blake and Standish, 2000: 11)

What these arguments suggest is a de–familiarisation of the interface in order to jolt the user into a meta–awareness of their environment (perhaps in the way art duo JODI challenge the user with works like *SOD*, where the graphic interface and controls of a familiar online game are undermined or unbalanced <http://sod.jodi.org>) But if we strip all user–friendly elements from computers, do they then revert to the elite preserve of a small number of expert users? Using the analogy of photography, Brown diffuses this concern by arguing that it is precisely the intervention in and transformation of the media by non–professionals, which will enable new languages and uses to emerge. "In photography it was the amateurs, thanks to Eastman's 'Box Brownie' cameras, who broke all the rules and established new foundations for the photographic language to evolve." (Brown, 1997: 107)

A more recent tactic, employed by artists like etoy and Feng Mengbo is to mimic (by now) familiar screen aesthetics and devices from online games and commerce, to

subvert their authority and aims. Understanding of this work requires a familiarity with online conventions, which many young users will have from their informal uses of the media (Buckingham, 2003). Again this underlines the need for a critical engagement with the Web, addressing a broad concept of 'digital literacy', as a key issue, and raises the question (alluded to by Blake and Standish) of how to embed a non–linear concept of learning into the design? Would a balance of innovation with accessibility, moulding the structures and sensibility of digital art into a Web–based education resource, for students and teachers not familiar with such work and concepts, just produce an unhappy compromise?

The specific design features, structure and aesthetic will be discussed in more depth in Chapter 5, when I account for the creative development of DARE. Decisions about what to include or exclude in terms of design features are inseparable from issues of the content and use, which is why this section acts as a bridge from the previous to the next section.

3.5 Use

What has emerged throughout the chapter is that it is not possible to entirely separate questions of access, design, content and use so, in effect this section addresses the accumulation of all these areas. In the introductory chapter, when articulating the reasons for this enquiry, I remarked on the Internet being used for "communication, production, exchange and dissemination" (1.1). From the various reports and evaluations, which were reviewed in the course of this research study, it became clear that several of the key characteristics of the Internet were not being exploited in education. While it was recognised as a space for information and research, what it offered as a medium for production, communication, collaboration and debate was largely unexplored in the art department.

The following scenario refers to a sixth–form student who, unable to find any published information on an artist (whose work she had seen on a postcard), was able to find the artist's own Web site, and subsequently made contact.

> "She was an average student but her dialogue with the artist really pushed her on, informed her work and gave it meaning. She became interested in the artist's motivation and technique. It enthused her because she made the contact herself. She was conversing with a real, living artist, getting the

artist's own view – rather than an historian's view of a famous, dead artist." (Wood, 2003: 6)

This illustrates how the net can provide the space for information, research and exhibition, and subsequently be the medium for debate. But as other reports have shown this kind of access and motivated enquiry, while possible, is still only happening in a minority of 'exemplary' cases (Creating Spaces, 2003; Downing and Watson, 2004). When this research study began this was still at the stage of potential rather than actual experience for the vast majority of art and design pupils.

Returning to the aims identified at the start of this chapter (3.1). In regard to the kind of learning which the resource should support, these identified the theory, philosophies and principles of a discipline and, crucially, the subsequent meaning these acquire for the learner in wider social and cultural contexts. Equally important was the concept of making and seeing as forms of knowing.

3.6 Conclusion

Throughout this chapter the issues have bled across the structured sections, which I have used to convey a rationale for the development of DARE, illustrating both the holistic and the slippery nature of this project. Nevertheless, I have identified a set of key issues arising from the initial media and literature review, which have formed the criteria for creating and evaluating the DARE resource:

- To view learning as the transformative, critical process of acquiring and creating knowledge and create a resource constructed around this principal
- To recognise the active role of making as a critical tool and to acknowledge those artists who engage with critical theory (whether socio–political or aesthetic), through their practice.
- To document and disseminate material resources in an accessible form, for current and future use by a wide educational audience.
- To facilitate conceptual access, through the content, design and use of DARE, whilst also raising questions in the mind of the user.
- To broaden access to diverse content
- To adapt the more site–specific uses and arguments for the net – as medium and message – in the context of art education/education through art.
- To facilitate user participation and a space for creative contribution

Therefore, in practical terms, DARE might ideally be devised and constructed to fully exploit the potential of the media thus enabling users to find work by artists living and working in the present time – who are employing a range of media and spaces, including digital, time–based, and performative – and engage with issues, relevant to pupils' and students' own experiences. If users were to see work by other schools this could act as an inspiration and potentially allow contact with those schools for collaboration, including publishing their own work on site, and the for online discussion of art–related issues with others (students and teachers). Ideally, the site would also enable users to pursue their enquiry supported by a critical, questioning framework, building on their initial research (through the Web's linking capacity), to find works by other related artists and even to make contact with individual artists.

Inevitably, a number of subsequent questions needed to be considered during the development and testing of DARE:

- How would usage be documented and evaluated?
- How would participation be fostered, potentially developing a community of users?
- How could the resource be sustained?

These questions are addressed in relation to development, evaluation and revision, in chapters 4, 5, 6 and 7. The following chapter presents a similar problem to this one, in translating a mixed, interdisciplinary set of methods for enquiry, creative development and evaluation, into a valid research methodology. The diagram (Fig. 4.0) clarifies these relationships while the whole chapter argues for this unique hybrid approach.
(6449)

Chapter 4. Methodologies

In this chapter I will detail the methods used in this research study, their interrelation and the reasons for their use. As was briefly stated in the introductory chapter, a mixed methodology has been adopted chiefly because this particular study crosses the borders between educational research and art practice (see also chapter 2). Therefore, a hybrid qualitative approach has been applied taking the case study as the overarching methodology, the case in question being the development and use of the DARE Web resource.

Throughout this thesis I examine artists' practices in relation to (secondary school) art education, arguing that the curriculum needs to take more account of these practices within a creative and critical approach to learning through and about contemporary art. In a parallel process I employ critical and reflexive art practice–based research in conjunction with more established educational research methods, to devise and examine the DARE Web–based education resource, which embodies just such a creative and critical approach. In the research and development process I have used a range of techniques for provoking critical enquiry. The three main strands are: exposing the critical nature of much contemporary art practice, embedding elements in the site design which continue this questioning and then further employing a process of critical enquiry in the evaluation. As noted in chapter 2 (2.1) self-criticism is understood to be a key part of critical theory, so in creating a resource which expressly aims to engage users with the ideas, products and context of contemporary art, I also wished to be aware of my processes as the educator/maker/researcher through the audience responses. In addition, my intention was for the evolving areas of user contribution and response (through the *Art Club* and the participating schools' web pages), to inform the development of DARE and raise questions about the authorship and interpretation of the resource and its contents. In this way the study differs from many other reported approaches to research in the field of art education because I am simultaneously considering the educative and creative intentions of my practice[1].This involves subjective decisions as well as compromise but as Walford reminds us, the notion of the research process as a careful, objective, step–by–step model is potentially fraudulent (Walford 2001). As I make clear later in this chapter, I have also looked at the field of action research where reflective practice plays such a central role, because of its links to similar evaluative processes in research though making. It is precisely the

[1] For instance, the texts in *Research Methods and Methodologies for Art Education (La Pierre and Zimmerman, 1997)* all appear to foreground either the pedagogic elements of their subjects of study, or the aesthetic/creative aspects. Even the paper on action research assumes the researcher identifies herself as a teacher, *or*, an artist rather than both.

slippage between these disciplinary models which informs the method with my role as educator/maker/researcher at its heart.

Being based in the practical development of digital materials there were a number of stages to this study with the data continuing to evolve over time and in relation to changing contexts. This notion of 'diachronic data'[2] relates to both the development of the Web resource accounted for in chapter 5 and to the evaluation of the resource, as documented in chapter 6. A conventional summary of this research might view it as two distinct stages:

- firstly, the initial research and development period leading to the design and production of the pilot Web–based DAER[3] resource. This involved a fairly traditional literature review but, this being an Internet–based project, also necessitated a substantial media review including online papers resources, journals, and multimedia materials. Following the initial literature and media review, the pilot digital architecture was designed and constructed, involving in its later stages some interim evaluation with a small user group (explained later in this chapter 4.2.1)
- secondly, the evaluative testing of this resource by users in a number of specific contexts, which started with the (unpublicised) online publishing of the pilot DAER resource (Oct 1999) and has continued since the public launch of the DARE resource (May 2000)

However, viewing these two phases as entirely separate or complete is potentially problematic since they are actually both interrelated and continuous. Nevertheless, the construction of the pilot resource, when ideas and content were first manifested in a visual product, was a significant landmark both for the research process and the project's funders. Since the technology itself and the context of its uses has developed, the literature and media review process has been constant throughout the whole period of study, as have small revisions and updates to the Web resource. Since publication DARE has been the subject of evaluative feedback from various users. Excerpts from these interviews and the related documentation form the basis of the evaluation in chapter 6.

[2] This term is used by Gray and Pirie (Gray and Pirie, 1995) in reference to the practice–based research methods identified by sculptor Anne Douglas, whose original training was as an anthropologist. The term, referring to the study of a subject over time, comes from the structuralist theory which influenced the development of that discipline and is used in opposition to 'synchronic' – the study of something at a particular moment.
[3] This change of title from DAER to DARE was mentioned in the introductory chapter, section 2.111, p.8

Fig 4.0 Working diagram to illustrate the relationship between DARE development and research methodolgies, over time.

The use of the DARE resource has occurred in shifting contexts which are affected by such variables as changes in the curriculum, an expanding online education network and increasingly 'ICT–literate'[4] teacher and pupil user groups, so the whole research process should be viewed as iterative.

In fact it has been more useful to consider the research as an evolving system rather than a linear progression. The diagram (fig 4.0) is an attempt to visualise what is meant by this. It shows the overall diachronic nature of the process, illustrating both the relationships between the various chronological stages in the development of the DARE Web resource and the relevant methods applied to investigate, propel and evaluate this development.

In the following sections I will briefly examine the key characteristics of the chosen methodologies: case study and art practice–based research, going on to explain their relevance and application in my research study. Within these sections I also detail the main tools used for data gathering, including any ethical considerations involved.

4.1 Literature and media review

The research began in a fairly standard way with a literature review incorporating relevant online or hypermedia texts. In this research study, the review has been an ongoing process, influencing both the development of this thesis and the concurrent development of the Web resource. In the course of this review, several key texts and artefacts have emerged in relation to questions I was asking through the construction and use of DARE (for instance Haas; Blake and Standish; Cahan and Kocur and the Visual Knowledge Programme www.vkp.org.) A detailed summary of the review and the issues arising are laid out in the two previous chapters (2 and 3).

4.2 The case study

The case study is a qualitative method, whereby a particular instance is examined as an example of a real situation or subject, as opposed to a theoretical proposition or construct. The case in question could be an individual, an institution, a group, a practice, a design or an instance and the study might be in relation to a particular moment in time or over a period of time (Gillham, 2000). It allows the researcher and readers to see how things work in practice, beyond the theoretical principle and also to examine the contextual factors which may impact on the situation (or persons), factors which could be invisible in a quantitative or numerical analysis. A case study is a

[4] This term has acquired common usage over the past five years, becoming the standard phrase for describing a fluency, not only among staff and pupils, but also the population at large, in the skills and applications of information

bounded system where the parameters of the study – number, gender, location etc – are defined. Often, case studies are used to illustrate more general principles (although this is a contested application, as I go on to discuss), and to "establish cause and effect" (Cohen et al 2000: 181).

When refining the question which would be the subject of this research, "To What Extent is the Internet an Appropriate Medium for Learning through and about Contemporary Visual Art?" it quickly became apparent that a study which relied solely on quantitative data from national surveys and statistics would not achieve anything other than a rather shallow and possibly misleading analysis of the situation. The type of data which could inform this investigation, was patchy and most of the surveys available had been commissioned or produced by the DfEE, or other related organisations, whose intentions or priorities I was already questioning (see Chapter 1.1 and 2.2.4). An in–depth study would instead require the kind of qualitative investigations referred to by Mason "which are flexible and sensitive to the social context in which data are produced." (Mason 2002: 3). It required the detailed examination of how the Internet was being used for learning and making contemporary art, in a real–life[5] context such as in the school art department, rather than broad statistics about how many Internet enabled computers were installed in a school. Not only did the DARE project present an opportunity for studying such a case but, at the time of the project's inception, there were no other obvious models to study so the opportunity for other case or comparative studies did not emerge until further into the research period. Moreover, a case study was the most appropriate methodology here because the research would be focussed on the particular instance of the development and use of *this* resource – with its distinctive design and aims – including detailed contextual description and the feedback of users in situ. How and why these evaluations were conducted is explained in 4.2.1 and in the context of chapter 6.

For me as the researcher/maker a case study approach allowed me to reflect critically on my own practice, considering how the aims for the Web resource could be embedded in its design and content and assessing to what extent this was achieved (chapter 7).

While the case study is sometimes criticised as being too particular, not necessarily able to be generalised to inform a broader picture (Yin, 2003), this method is vital when something innovative is being tried, where there are no precedents to examine, as in

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and communication technologies. However, while a technical proficiency is assumed, this does not necessarily imply a critical understanding of the languages and conventions of the media.

the emerging field of digital art education. In this case, the uniqueness of the resource design and aims is set in the context of two urban comprehensive secondary school art departments, which broadly share many factors in common with other such schools across the country, in the form of curriculum design, teaching methods, lesson structure, class size and examination syllabi.

A number of the texts which attempt to define case study research point to the disagreements in the field about which exact strategies, paradigms or applications are the defining ones. Schwandt suggests that " One useful way of thinking of this approach to enquiry is in terms of the distinction between case study and variable study" where the variable study gains insights into a system or situation by measuring the effects brought about by manipulating variable factors, while a case study is a more holistic examination of the particular, interrelated features of one specified case in a real–world context (Schwandt 2001: 23).

Stake has suggested that it is the particularity of the case or problem which makes case study the most appropriate method, perhaps raising questions about what relevance this might have beyond the confines of those involved in the study (Stake 1995). Yin, who tends to explain things using scientific paradigms, suggests there are ways in which it is appropriate to generalise to theories, employing analytical rather than statistical generalisation (Yin 2003). It could be argued that if you are consciously choosing qualitative methods in a social science field such as education, you are not looking for absolutes but rather for likelihoods. Therefore perhaps the most that can be claimed is that, from what was witnessed occurring in a singular case, in a similar scenario where x and y are also happening, z *may* be or is *likely* to be the result. Or, as Sullivan puts it, "what is seen to be real in one observed setting can have parallel relevance in a similar situation." (Sullivan 2005: 59). Where there are so few other in–depth studies on uses of the Internet in relation to art education, this present study provides a unique portrait of usage in context, detailing the complexities of the issue for future researchers, educators and policy–makers.

It is worth acknowledging other perceived weaknesses of the case study as a method. One is that the model can lack rigour and that too many researchers have allowed bias or opinion to influence their findings or conclusions. Another is that a case study can be lengthy in execution and long–winded in publication. On the first point, there are a number of crucial framing criteria to employ, addressing the issue of validity and

[5] This term 'real–life' is in general use in qualitative, social science research publications so I have not placed it within inverted commas, even though as a philosophical construct it may be questionable.

‘trustworthiness’, when designing the research, which I go into in the following section (4.2.1). Having said that, it is important to stress that subjective judgements are actually a key aspect of practice–based research. To address this possible conflict, I have tried to analyse or account for subjective decisions, each time they have informed the process or practice (see 4.3 for more detail.) “In surrounding research problems in order to solve them, data gathering involves creating rich descriptive word portraits and visual documentation that reflect the insight of the insider and the critical focus of the dispassionate observer.” (Sullivan 2005: 60).

On the second point, ethnographic studies can indeed require long periods studying in the field and can produce huge quantities of data. The present case study involved three years field work which spanned the period of employment in the DARE researcher post, followed by three further years, on a part–time basis, in the additional collection and write up of data. The research involved the use of such qualitative methods as observation, interviews and focus group discussions. There was also minimal use of quantitative data in the form of statistics and questionnaires, but the interpretive analysis of these could also be termed qualitative. In terms of the length of time and the length of this thesis, both are appropriate to the PhD format. More importantly, as I have argued, these methods were essential to document and describe both the development process for this complex Web resource and its evaluation, over time, in different settings (see chapter 6).

In addition to the qualitative methods described in the following section, my own reflective notes as the researcher have been a primary source of documenting and analysing the design and application of the digital resource. These included informal design notes, sketches, post–it diagrams and conversation notes, and chronological reflective notes. Here I drew on my background as an arts practitioner, which involved intuitive decisions as well as reasoned judgements. The practice–based research methodology, the problems associated with its rigour and validity and my reasons for adopting this approach are examined later in section 4.3.

4.2.1 Data gathering, analysis and evaluation

Having identified the characteristics of the case study and argued its appropriateness for this study, I will examine the methods chosen for data gathering and evaluation, accounting for the process in this study while taking note of potential problems associated with these methods such as bias, mediation and subjectivity.

The interview is one of the most widely used techniques in social science enquiry (Briggs 1986) and the semi-structured interview was the main research method in the evaluative period of this study, conducted with teachers, student teachers and pupil participants. It had been my intention to employ non–participant observation (where the observer does not take part in the activity or situation being studied but is present to observe it), in conjunction with feedback from the interviews but in the early stages of the project, the situation of ICT provision in schools frequently made this impractical. Much of their interaction with the DARE resource happened beyond the art room sessions I was able to attend, so my opportunities for observation were limited. There is, however, an example of non–participant observation from the later (2001/2) Chantry evaluation, which I had commissioned from an independent evaluator (see excerpts in Chapter 6). In addition I adapted the focus group technique to reflect on the data and issues arising from the evaluation at Windmill School (Cohen et al 2000). With PGCE students, two open discussion and feedback sessions were conducted (in 2001 and in 2003) at the start of their courses, the students having been set a pre–course assignment to use DARE in the development of a piece of artwork (Appendix 6).

The evaluation of DARE happened over time, at various stages between 1999 and 2005, rather than in one fixed period. While certain issues or themes became evident at the time of the interview, it was only when all the material was analysed and reviewed together in the write up stage that patterns (of perception and use) began to emerge. In procedural terms, a series of semi-structured interviews and discussions took place with DARE users over the period of the Web site's development, trialling and revision. In the initial phase a framework for the evaluative interviews was devised where:

- key questions or areas of enquiry were identified, grouped and prioritised (Appendix 7). These were discussed with research colleagues, who I consulted for advice and the questions were revised accordingly. Specifically, the number of questions was reduced and related questions were grouped while similar questions were edited.
- conditions for the interviews were considered. I thought about who I should interview, when and where. I also considered whether the interview should be video or audio-taped. Sometimes conditions were set for me, such as in the case of interviewing the A-level students, which could only be done in their art lessons, or gathering feedback from the PGCE students which was done as part of their regular course.

- interview/discussion techniques were practiced and varied. I made the active decision to do the interviews with the Windmill students in pairs or small groups, since I felt it would lessen the power imbalance between interviewer and interviewed if students could confer with peers when they gave feedback.

The interviews for this research were conducted using an audio cassette recorder, transcribed by a third party, then checked by the researcher and edited to remove hesitations, repetitions etc (except the PGCE discussions (2003 – 05) which I transcribed myself.) The majority of interviews and feedback sessions were the length of one lesson i.e. fifty minutes. The early interview material with the Windmill students and teachers (2000) provided the focus for the focus group discussion (2001) and their comments helped to identify emerging issues and clarify categories.

An interview, whether in the form of the formal, structured interview, or the more open, digressive conversational model of the unstructured interview, is always a constructed interaction. Gillham's diagram, illustrating the spectrum from structured to unstructured interview techniques and characteristics was a particularly useful reference for identifying characteristics and techniques for each type (Gillham, 2000: 6).

The semi–structured interview is one where the researcher has prepared a set of open and closed type questions for the interviewee(s) but where there is some flexibility, allowing the researcher to ask further questions, to probe deeper, elucidate an answer or enter into a dialogue with the interviewee. The interviews with teachers and students at Windmill school took this form, partly because there were certain identifiable issues I wanted to discuss but also, especially with the young people, I needed the flexibility to re–word questions or coax responses from less confident interviewees (Christensen & James 2000). The interviews with pupils and teachers at Windmill were conducted partway through the project – November 1999 – after the pilot site had been trialled with these two groups (a year 11 class and a year 8 class) and then towards the end of the trial period – July 2000 – before the site was launched.

The unstructured interview is conducted as a free–flowing, open–ended discussion, where the interviewee can use their own frames of reference and draw more easily on their own experiences and understanding of an event, experience or situation. It has the advantage of the interviewee being able to let their voice be heard, prioritising their own perspective and not simply responding to an authoritative or official point of view. The group feedback sessions with PGCE students were closer to this format, mainly because they had to take place in one afternoon at the start of the Autumn when the

students were sharing their pre–course projects with each other and this work was fresh in their minds. In these circumstances, I wanted these new students to raise their own issues as well as responding to my questions.

Cohen, Manion and Morrison stress the importance of remembering that, “the interview is a social, interpersonal encounter, not merely a data collection exercise.” (Cohen et al. 2000: 279–81). This extends beyond the event of the interview to the process of transcription, where notice should be taken of sound inflections and non–verbal responses, and (in the case of videotaped recordings) of any facial or gestural responses. It has been noted that audio–taped interviews miss these important and sometimes contradictory cues (Mishler 1986). However, it is also worth bearing in mind how self–conscious people (particularly young people) can be in front of a video camera, so in my interviews I felt the relative unobtrusiveness of the tape–recorder was preferable.

In analysing the interviews and discussions, I was looking for substantive comments or points made by the participants. I was also scrutinising to ensure that these were being offered by respondents as a genuine response to open questions and not led or implied by the interviewer. I conducted the analysis using a standard technique, reading the transcription, highlighting relevant passages and noting in summary form what these suggested or related to, for instance “unfamiliarity with artists”; “use of references and links”. These were then grouped in relation to the key evaluative questions (6.0). Issues and problems arising were also noted, whether these fell within or beyond the evaluative framework. Once all the evaluative material had been collected and analysed (2005), it was finally structured in the process of writing up and revising chapter 6.

Another key tool for the qualitative researcher which should be mentioned here is observation – also a standard feature of teaching. Like the interview, the observation can be more or less structured in form, the highly structured form using pre–determined criteria and questions, the unstructured form allowing the relevant issues to emerge from observing the situation. While the structured form is used to test a hypothesis the less structured observation is likely to lead to the generation of a hypothesis (Cohen et al 2000). The researcher’s role in observation can be classified in relation to how much they participate, producing another scale from complete involvement to total detachment – although it has been argued that total objectivity is not possible (Adler and Adler 1994). During the evaluation, my own role was largely as an observer with minimal participation, limited to an initial introduction to the DARE

resource. I did try to involve a group of PGCE students as participant teacher–researchers in 2003. However, these students ultimately found it too difficult to record and reflect on this element of their own practice, while on placement, in addition to the demands of their PGCE course. With hindsight, it might have been more practical to work with a group of newly qualified teachers (NQTs) in their probation year.

4.2.2 Validity, reliability and ethics

In his description of research design, including judging the quality of empirical research, Yin lists four tests which should be met and suggests strategies for meeting these: construct validity; internal validity; external validity; reliability (Yin 2002). However, Yin's examples and language draw heavily on scientific paradigms. A much more useful approach for the present study is offered by Bassey, who seeks an alternative to the traditional experimental research concepts of reliability and validity. He explores the concept of trustworthiness and provides some basic tactics to consider at particular stages during the research process (Bassey 1999: 77–78). These include:

- prolonged engagement with the subject(s)
- thorough observation of emerging issues
- testing the analysis of data against the working proposition
- employing a critical friend to question the research process and outcomes
- keeping a systematic audit trail

This model is adaptive to a variety of circumstances and disciplines and proved helpful for this present study, in particular the last point, allowing for the inclusion of the reflective notes, documents, sketches etc, which form the basis of the practice–based research method.

The issue of ethics in research relates closely to that of reliability, or trustworthiness, in that the researcher has responsibilities towards both those who are the subject of or participating in the research and also to the wider research community. In the field of case study research, where the researcher is involved with people in the real–life situation she is examining, there are a number of key considerations. In relation to this study these were: obtaining access to the places of study with a clear explanation of the focus and purpose of their research; gaining the informed consent of participants (including giving them the opportunity to remain anonymous or opt out); keeping participants informed of progress and showing interview excerpts to participants, to obtain permission before publication and finally, documenting and publishing the findings for the wider research community with a clear, critical and honest account of

both the process and outcomes. A list of ethical principles to consider in teacher evaluation, compiled by Strike and reproduced in Cohen, Manion and Morrison (2000: 69), provided benchmarks for this present study and Burgess's in depth examination of ethics in educational research was also a useful reference (Burgess 1989). In the case of the key research tool in the context of the evaluative research, the interview, the following issues were considered:

- empathy and rapport in getting the best out of an interviewee
- that young people are comfortable with the interviewer
- that participants know what the interview/observation is for – the use of the research, and the value of their contribution
- that they know that the interview/observation will not be used for assessment, grading or Ofsted
- that the interviewer and interviewee are both aware of the power relationship that exists and how this can also be affected by the location and the presence (or not) of other people

As the author/designer of DARE, as well as the interviewer/researcher, there was a potential problem with respondents feeling inhibited in their feedback to me. However, I had made clear from the beginning, when the initial DAER site was trialled, that student and teacher feedback was an important part of the process and would help in developing the site (which would itself invite response), therefore critical evaluative commentary was present in all discussions, when I was present and when I wasn't (see chapter 6 for specific examples of this and chapter 7 for an analysis of the role of the evaluative sessions for the participants as well as the research).

Elements of this present study have appeared in public presentations and in print (Sinker 2001; Russell 2001) with prior consent for these uses being obtained from relevant participants. All participants were informed of the uses of this research being twofold: to develop and evaluate the DARE site on behalf of the co–producers, inIVA and Middlesex University and to document, evaluate and critique the production of DARE in the context of this present PhD study. As noted in the introductory chapter, the aims and objectives of the supporting institutions were similar but not identical to my own, so the (internal) report which was submitted to the co–producers and the Arts Council in 2003 did not include the full critique which I am able to undertake here.

4.2.3 Use of surveys and statistics

This study made limited use of questionnaires, a small number of which were distributed to Secondary Art Mentors at the start of the research (1999) and following the launch of DARE (2002). The purpose of these was to get a picture of technology resourcing in the art departments of partnership schools, including any changes over time. While almost the same set of questions was used each time in the initial questionnaire, I was considering access in relation to design decisions and in the later version I was looking for any changes in provision but still considering access issues, particularly how PGCE students would be able to follow up on their use of DARE once on placement. In designing the questions, I was sensitive to the guidance given by Cohen and Manion (1994), in particular taking care to avoid leading questions or overly technical wording (see sample questionnaires, Appendix 2). In the latter stages of my research, I consulted larger national surveys and statistics, such as those published by the DfES (2000, 2001) and the Artworks survey, commissioned by the Clore Duffield Foundation (2003), to inform questions of access to the Internet in art departments. However it has been noted, here (chapter 3) and elsewhere, that these surveys sometime reveal conflicting patterns of access and use and that the data analysis methods are not always consistent (Creating Spaces 2003).

4.3 Art practice–based research

A basic summary of academic research might characterise the process as involving hypothesis, analysis, synthesis and summation. Traditionally these terms have been used in the context of written documentation and publication but, as a Research Training Initiative (RTI) at the University of Central England recognised, what counts as research in art and design is contested, particularly in relation to the form in which the knowledge exists (Newbury 1996). Earlier, Frayling had articulated not only the historical shifts in the definitions of the term research but also, as previously mentioned (chapter 1), its usage in relation to arts practice (Frayling 1993). Universities are bounded by institutional research guidelines as well as by the frameworks of the national Research Councils and the Research Assessment Exercise (RAE) but academic researchers are also influenced by the traditions and shifts in how research practice has been framed within their own discipline(s). The specific issue of validity in relation to case study research was addressed in the previous section (4.2.2), but the larger question of what constitutes ‘valid’ research is a complex and political one, tied up with institutional status, funding and careers. Where work is trans–disciplinary or in an emerging field of practice, additional questions of validity can and will arise. In this section I will review some of the arguments and models for research in the visual arts

and show why I have adopted one such method in conjunction with the qualitative methods previously discussed.

In discussing research models for the field of art therapy *Art–Based Research* McNiff talks about what had traditionally been seen as a dichotomy between (art) practice and research. He feels this could be attributed to "the tradition of objectivity which assumes that a participant in a process cannot truly see what is occurring." (McNiff 1998: 22) He argues for a new model that incorporates the making of art and the personal reflections of the maker upon that creative process. In an area of art practice which has been examining the therapeutic value of art, it is clear to see why models from behavioural science and psychology have traditionally been used but he questions the need to justify or legitimise research "according to another group's values and criteria" and cites the tension in scientific and philosophical enquiry, between what is known and what is unknowable, as a parallel to what resists definition within creative enquiry (McNiff 1998: 31). The scientific paradigm, which calls for objectivity, has presented a problem to many artists and researchers in other fields of practice beyond art therapy, including the social sciences as was evidenced in the previous section, and there is a growing body of argument in visual and performing arts which claims that a practitioner's own art–based enquiry, is a valid form of research. (Frayling 1993; Gray and Pirie 1995; Graham 1997; Macleod 2000).

As more institutions offer research degrees in the fields of visual and performing arts, the clarification of what is recognised as research through practice and what this route offers to artists, becomes more urgent (Büchler 2000). A number of texts are trying to articulate the theoretical, practical, philosophical and political strands of the debate: some look at the specific issue of practice–based doctorates, surveying institutional requirements and examining student experiences (Candlin 2000; Macleod 1998a & 1998b; Biggs 2000) while other publications explore the issue from an artist's perspective (Raphael and Clarke 1999; Douglas, Scopa and Gray 2000). A recent American publication attempts to put the argument for artists as researchers into a larger historical, cultural and theoretical context, producing a set of flexible theoretical frameworks, drawing on the practices, processes and institutions of visual arts, rather than adapting criteria from the social sciences or humanities (Sullivan 2005).

In this present research study, I wanted to draw equally on my experience and knowledge as an artist and as an educator, in fact as an artist–educator, since the majority of my work is creative practice in educational contexts. Ironically, just as artists are being forced to argue for the place of art practice as a legitimate form of research

in academia, so artists whose work is based on creative social interactions, including those in education, have had to counter resistance to this work being seen as art, from within the art world. In my opinion, DARE is both an educational resource and a creative artefact, where questions about the nature of art, artists' works, the digital etc. are woven into the fabric of the resource, not in an instructional model but in a metaphoric, interpretive, critical mode. As I explain in chapter 5, my influences for DARE were not other online art education tools – because none existed – but net art works where artists were questioning the medium of reception through the medium of production. The content was framed by what was absent from the National Curriculum, more than what it was required to cover. I used the organising themes as research tools, just as I would when developing an artwork (see 5.2 for a description of this process), in that they allowed me to both deconstruct and construct form and meaning. For instance, *space and place* presented initial terms for library-based and online searches, allowing me to cast a wide net over their historical, cultural and philosophical derivation and use. This led me to consider not only how artists and writers had explored and expanded these meanings, but also how this might be represented visually, on screen and conceptually in virtual space. Researching artists' works online presented models for integrating the form and concept of *place* (or *play* or *translation*) beyond anything available in curriculum-based or educational materials. Even though the work was commissioned as a resource for education, a practice–based research model has been useful to me, because it allows me to use anecdotal, personal, reflective enquiry to illuminate the process of developing DARE, where other methods would not reveal all the elements, influences and decisions which went into it. In reflecting on my decisions in conjunction with the responses of users, problems are revealed in particular contexts and settings. As Sullivan suggests, "Issues–driven enquiry of this kind not only identifies problems, but also opens up areas whereby participants become responsive to potential change." (Sullivan 2005: 101).

Connecting my education practice to a critical pedagogy has enabled me to see how this current research can fit into both a reflexive art practice and a body of critical post–modern theory, as illustrated in this excerpt from my reflective journal:

> For some considerable time I couldn't see the wood for the trees, I was so deep into the practical work, I wasn't aware of how I was working. When examining the theoretical basis for this study I became aware that, since graduating, my work had consistently conformed to the tenets of critical pedagogy and critical theory. But at the time it just seemed like the only valid way to work, questioning the authority of belief and knowledge systems, the image, the media and even my own ideas. (Sinker 1999–2005: 14.12.2002)

It could be argued that all artists and designers are, to a greater or lesser degree engaged in a process of critical and reflective enquiry, of testing and problem solving through the practice of making. But the kind of research and analysis required by a research degree is not always the same as that which artists or designers employ through the development of their ideas in the process of their everyday work, nor is the mode of expression or examination necessarily the same. Newbury argues that a "well–designed object" or piece of artwork embodies knowledge just as a scientific formula would or a social science text, but at the same time admits that higher degree regulations do not always recognise this. Nevertheless he offers four main criteria around which to frame a working model for research, regardless of the discipline(s) where it is situated. In summary, he proposes:

- Research is a form of systematic enquiry
- Research should be rigorous
- Research should be critical and reflexive
- Research should generate communicable knowledge

(Newbury 1996)

It is the systematic, rigorous framework of the research (as understood and shared by academics and research councils), which can cause an apparent schism between the practical investigation and the written analysis, in the practice–based research degree (Macleod 2000; Hockey 1999) but in this instance I have not found Newbury's framework to be at odds with my working process. Douglas focusses on the context of the research, suggesting who or what it is for as the determinant of form and content, rather than attempting to construct an ideal methodology for such a varied and disparate field (Douglas et al. 2000). By this measure, the present study would fall within her category of 'formal research', being placed within and validated through the academic environment. However, Douglas's categorisation doesn't account for cross or trans–disciplinary practices, being squarely focussed on developing a shared body of knowledge *within* the discipline (of Fine Art). As always then, the difficulties lie not within established spaces and procedures but at the borders, in the slippages between old and new practices, disciplines and theories where the quest to establish a legitimate identity serves to accentuate the differences in language and culture, rather than highlighting commonalities. And it is within the 'between' space that this present research study exists, resisting the pull to *either* education *or* art, insisting on a dialogue across the divide. Although contested, this is why the term artist–educator is a useful one for me, because it forms a relationship between the two concepts and can serve to articulate this dialogue. Thus the artist–educator is able to operate as both

insider and outsider, looking at the widest contexts of arts practice and arts processes. In other words, not just thinking of art as art & design, nor of education as simply schooling.

Alongside the interviews and observations from the case study, a key research method – used by myself as the researcher–practitioner as well as by two of the teacher–participants – was the reflective journal comprising notes, email exchanges and annotated sketches, screen–grabs and photographs. This method of recording, analysing and evaluating subjective decisions made in the process of one's professional practice and development is a recognised tool in action research within education (Altricher, Posch and Somekh 1993) (see 4.3.1). Increasingly, it is also seen as a way for artists, or rather art–practice PhD students, to evidence their research process within an academic framework, where the notion of a visual or physical form of knowledge is still contested. As Hockey says "The explicit, cumulative detailing of the daily routines of making is what is needed, if practice is to be directly linked to theory, concepts to objects, processes to practice, mind to method, for a critical academic audience" (Hockey 1999: 42).

4.3.1 The reflective journal and the action–research paradigm

Considerable discipline is required to step outside one's own making process – developed through a professional practice which often involves intuition, trial and error and subjective aesthetic judgements – then apply a rigorous analysis to this process. But perhaps it is no greater in the artistic field than in any other professional practice, which might involve the same subjective processes. There is not room in this study to fully explore the field of action research in education but it is worth mentioning here because of the core notion of reflective practice, and the established use of the research diary, within this paradigm.

The term action research is usually confined to the teaching profession, being a form of professional development and a mode of investigating and improving practice, but some have suggested, action research can be undertaken by others involved in the business of education, including researchers (Holly and Whitehead 1986). The word 'action' here not only refers to a research method employed through practice, but also connotes a desire to *do* something rather than simply study it. One of the key characteristics of action research is its aim to effect change in practice or even policy and here it links to both socially engaged art practices and critical pedagogy (see chapter 2).

Altricher, Posch and Somekh describe the research diary as a “companion to the research process” and clearly regard it as one of the most useful tools available to the teacher/researcher. They point out that as well as describing practice, documenting ideas and memos and analysing observations of teaching, research diaries draw on a rich tradition of self–reflection in scholarly works (Altricher, Posch & Somekh 1993: 10). Reflecting on data, connecting it to previous experiences or to theories, confirming or undermining assumptions and posing questions or hypotheses are all legitimately within the domain of the research diary. The artists’ journal or notebook fits into this model well if it is understood that experiences, theories, questions and hypotheses can all take visual as well as text form.

While this study does share many characteristics with a typical action research study – the desire to effect change in practice and individuals; the participatory and collaborative elements (in the making and evaluation of DARE); the use of critical analysis and reflection – I would suggest that it is not, strictly speaking, an action research study. This is because my intention is not to evaluate and modify my practice as an artist–educator or practitioner/researcher, although this may very likely be an additional outcome of the process. It is primarily to evaluate and adapt the use of an artefact/resource with the aim of advocating change in practice.

4.4 Concluding notes

Referring once again to the diagram (fig 4.0) I have now explained the ongoing and concurrent processes that have been integrated within this research. The review of literature and media initially helped in constructing a theoretical framework for the development of an online resource and has continued in guiding and questioning the design process. This has been integrated within a reflexive approach to making, based on practice–based research methods, with the use of a supporting reflective journal. The resulting Web site could be seen as an embodiment of the theories referenced, within its design, content and functionality, as well as a reflection of my own creative/critical decisions alongside user participation and evaluation.

In the following chapter, I explain how as an artist–educator I have developed DARE and in chapter 6 I give details of the real–world trials of DARE, in school and HE contexts, both sections revealing the constraints and compromises which have affected decisions and developments. As I will go on to argue in the concluding chapter, many of these constraints are not particular to this research study and have widespread impact on this field. In completing this study I will return to the original research question and a re–examination of the broader educational context, identifying a

number of key recommendations, for DARE and other future online art resources, along with a set of further questions for consideration (chapter 7).

Chapter 5. An Account of the Web Site Development

This chapter describes the Web–based resource: how it has been conceived, developed, constructed and revised; who it is aimed at; and what are its key features. In Chapter 3 I have given an account of the how the literature and media research informs both the form and content of the development of DARE, within the parameters set out by the commissioning institutions and their original brief. Here I revisit the issues raised in that chapter, in the context of particular design decisions and pedagogic arguments.

Beginning with an overview of my working method (5.1) I will detail how the site was devised, designed, developed and revised, giving a critical account of:

- Curatorial decisions (5.2)
- Technical decisions (5.3)
- Design decisions (5.4)
- External input (5.5)

This chapter and the following one – evaluating the uses of DARE – are different in tone from the preceding ones because they draw on an art–practice based methodology which, as I have argued in the previous chapter, allows me to use my own reflective notes and subjective decisions from the design and evaluation processes. Here I will write in the first person, rather than the more conventional third, drawing on anecdotal references. In reference to an age when audio–visual knowledge and literacy are as important to learners as literacies of writing and reading, Ulmer suggests a new framework for the construction of academic writing. In this he encourages the writer/reader to construct and deconstruct text as a sort of montage – in an invented genre he calls *mystory* – within all or any of the following three registers: the disciplinary/expert; the mythological/popular; the personal/anecdotal (Ulmer, 1989). While I have not adopted his *mystory* framework for this PhD, I do feel that the traditional language of academic research can distance both the researcher and the reader, masking the various subjective decisions and interpretations which have been made. I would argue that the creative element of the study and the evaluation of its practical application are more effectively served by the personal voice, therefore, this chapter will be mainly written in the third of Ulmer's

suggested registers, combined with elements of the first. This is not to suggest that in this section the project, or the language, is any less critical. Rather, I want to bring my own and other participant voices into the frame, to make clear how critical decisions have been made in the context of practical application and as a result of aesthetic preferences and personal judgements, as well as being governed by the larger aims of the project and its sponsors.

In addition, since the aims for the resource itself were inherently critical as well as creative, I don't want this thesis to serve as the theoretical explanation for a practical project. Instead I hope that both the written element and the creative multimedia work, each contain reflective, analytical and subjective aspects the whole project. Even while there were compromises to the perceived audience in relation to language and usability, which might not have been a consideration in a net–based artwork with the same intentions, DARE is a hybrid which draws on socially engaged[1] art and education practices. If it avoids conventional organisational structures this is not to be obscure, nor because I have not read the basic principles of Web design, but because I wish to call those conventions and principles into question.

[1] This term 'socially engaged practice', while contested is nevertheless an accepted term referring to an art practice where the artists' work is not an authored artefact, but takes the form of an engagement with members of the public who, together, create work or actions which aim for some degree of social transformation. For example, *The Art of Change*'s Docklands Community Poster Project (1981–1990). For more on this practice see: www.interrupt.org.uk/

fig 5.0 Pages from sketchbook illustrating visual/conceptual research (1998)

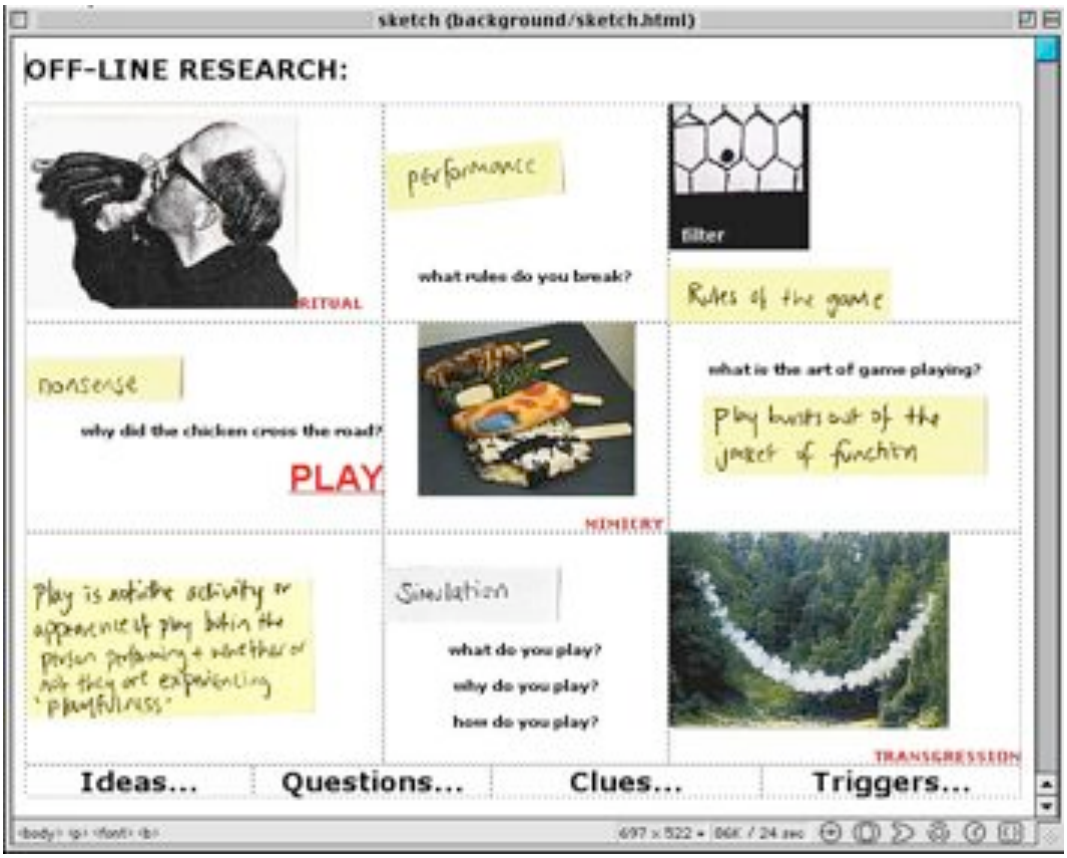

fig 5.01 Digitised example of the above sketchbook page (2000)

5.1 Overview – making and methods

In the introductory chapter (section 1.2.3) I explained how the main organising principle for the visual art content of the Web site, were the themes *play*, *space & place* and *translation*. These were my starting points and my frames of reference for beginning the research into contemporary artists' work. They were also determining factors in how I envisaged and designed each of these sections including such things as colour choices, layout and sub–sectioning – all decisions being initiated by myself, though on occasion discussed with others.

In the initial stages my research was developed using a sketchbook (fig.5.0) where I could lay out images across a page, in conjunction with Post–it notes on which various quotations or titles were written. I could then rearrange these on the page – as if I was placing them on a screen – arranging and re–configuring as I would use the 'drag and drop' facility in a digital imaging programme such as *Photoshop* (Adobe Systems Inc © 1990–2006). But the size of the sketch book and the flexibility it afforded me using a mixture of Post–it notes, hand–written text, word–processed text, cut–outs, photocopies etc, was actually more productive at this stage than designing the pages digitally. Later on I could go on and scan chosen elements which could then be arranged on–screen in *Photoshop*, or a WYSIWYG Web design tool as in this example using *Dreamweaver* (Macromedia Inc. © 1997–2006) (fig. 5.01).

The method I use to organise and re–configure elements of content and form, by laying them out on a flat surface (which can be a floor or a wall, or the pages of a book), in an impermanent configuration is something which I will refer to as the 'Post–it method'. While certainly not unique to me, it is my preferred way to devise and develop much of my text and image work in a visio–spatial mode. The main reasons I use this method are that, as it allows me to clearly see all the elements with which I am working, laid out in front of me, externalising thoughts and ideas which can be perceived simultaneously in this space. I can consider and organise the elements in relation to each other, use the various colours of Post–its to code and organise and, crucially, the provisionality of the arrangement allows me to move, change, add or edit things as my ideas develop. The size of the Post–its is key too, because they contain small chunks of information or ideas, rather than long passages or intricate illustrations, in much the way the Web pages contain small,

digestible elements. While they are static, they have the capacity to approximate dynamic elements when several notes are used, one on top of another, in flick–book or rollover form.

While this method incorporates traditional modes of visualising and testing ideas, such as sketching, doodling and note–making, it is actually a hybrid form, incorporating those and other methods into a flexible, mixed media format. In a sense, hypermedia technology, which combines image, text, sound etc. creates in digital form, what I am initially constructing in material form. The fact that the final product is multimedia allows me to transpose easily between my initial ideas and the final published work.

This method of moving between digital and non–digital modes of organisation, construction and design has given the DARE Web site a unique interface, which does not conform to the design layout of most art education resource sites (fig 5.02)

fig 5.02 Screenshot of Virtual Teachers' Centre's *Enhancing Art with ICT* page (accessed 2001)
http://curriculum.becta.org.uk/docserver.php?temid=79

In several of the pages I wanted to get closer in appearance to artists' Web sites or net art projects, where there is no fixed convention for how the site looks or functions (figs. 5.03; 5.04; 5.05). This decision, partly aesthetic and partly conceptual, has had a mixed response in how users have perceived and navigated the site. Many users appear to come with a range of preconceptions and expectations about what this site will be and how it will perform and where the site has disrupted these, some users have been initially frustrated while others are intrigued or excited. I have accounted for the way these response have effected design decisions in chapter 6.

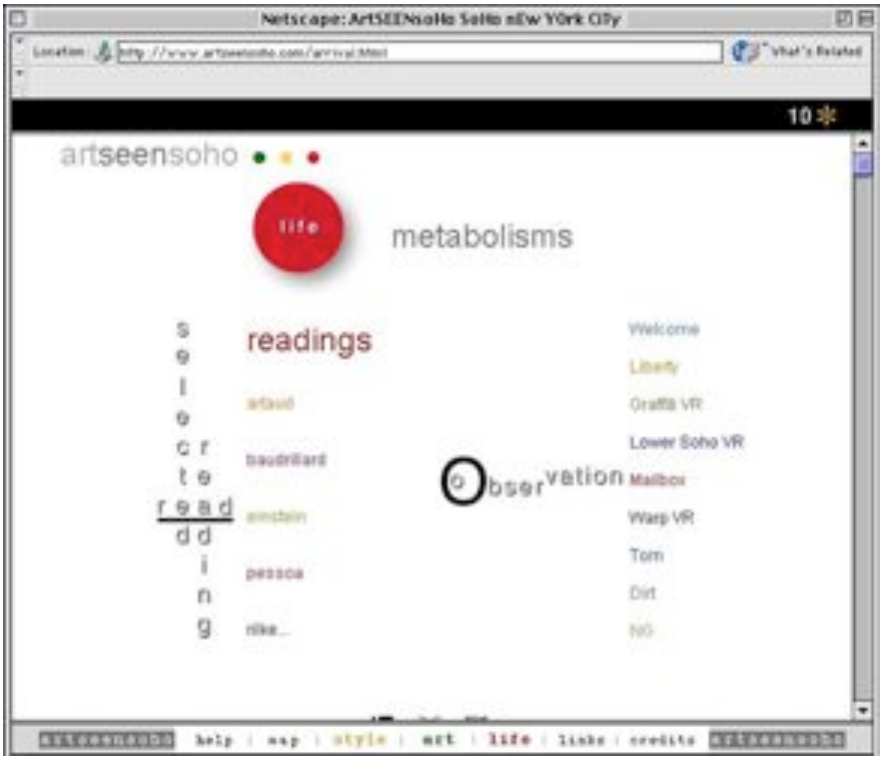

fig 5.03 Screenshot of *ArtSeenSoho*, homepage (accessed 1999)
http://www.artseensoho.com/arrival.html

fig 5.04 Screenshot of Lawrence Weiner's 'homeport' project on *AdaWeb* (accessed 1999)
http://adaWeb.walkerart.org/project/homeport/

fig 5.05 Screenshot of e–2's online artists project *Container Ship* (accessed 2001)
http://www.e–2.org/c–ship/section.html

5.2 Curatorial Decisions

The DARE site consists of four main sections: featured **artists** (organised thematically); additional **resources** including online links (organised and annotated on the links page), bibliography, glossary and further suggested reading; the **education** section including pedagogic approach and pages contributed by users; and finally a small, changing selection of hyperlinked **net art** projects.

The relationship can be seen on the current site map page (fig. 5.19) and also on the digitally sketched site diagrams from my early plans (fig 5.06, created Feb 1999 using *Hyperstudio* (Roger Wagner Publishing Inc. © 1993–1998) and 5.07, created Dec 1998 using *Inspiration* (Inspiration Software Inc. © 1988–2006), which reveal how the ideas have evolved or been revised. Both the current and early maps indicate that the four main sections are not equally weighted. As the current site map makes evident, the largest section is the featured themes and artists' pages, in effect constituting the heart of the resource. In addition, evaluation (which had initially been one of four themed strands) is shown as such in the 1999 draft map but is depicted as a foundation to the whole site in the earlier flowchart (fig. 5.07)

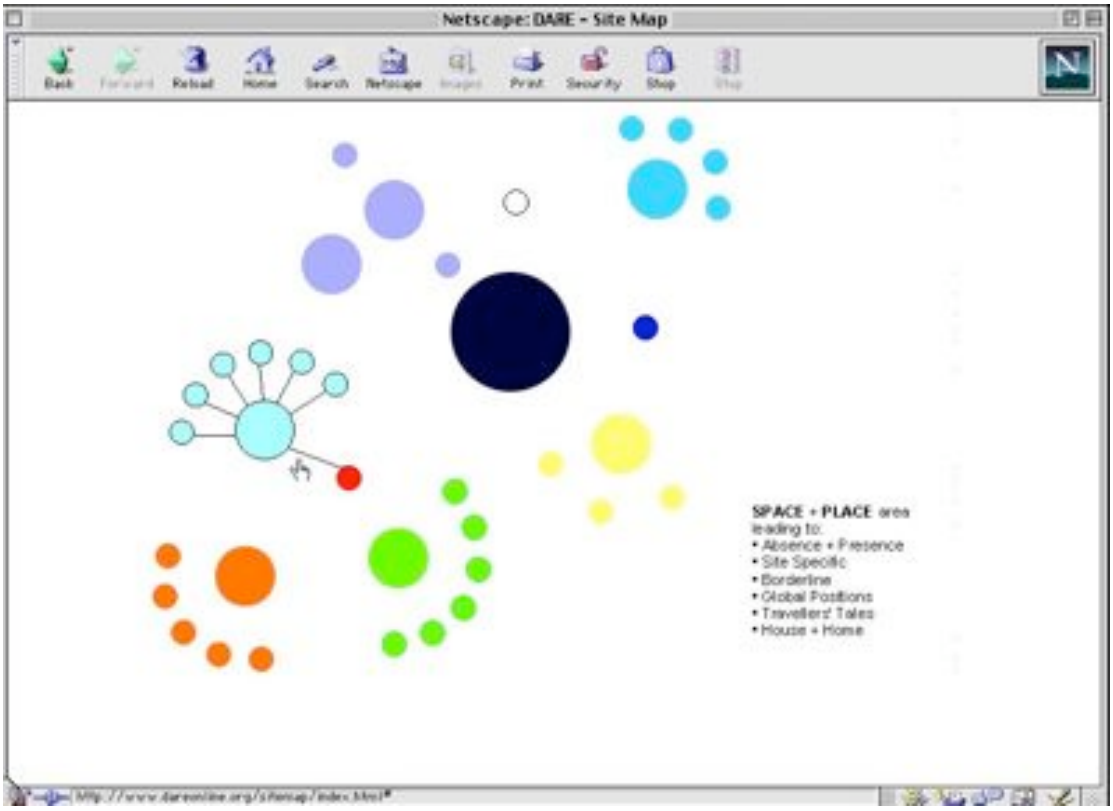

fig 5.19 Current DARE sitemap (July 2004)

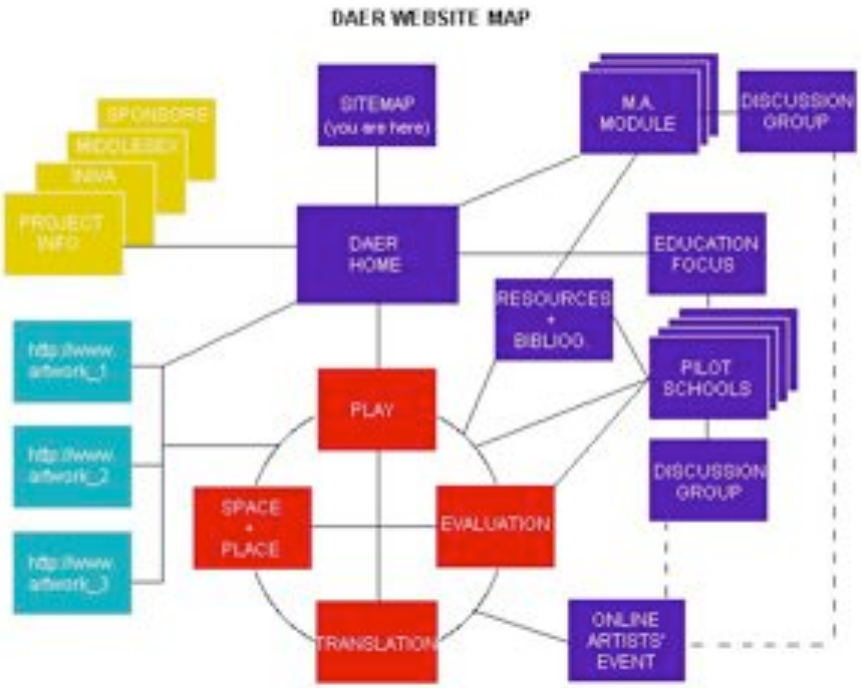

fig 5.06 DAER (using the old project acronym) site map layout ((Feb. 1999)

fig 5.07 DAER site flowchart (Dec. 1998)

In the end, the earlier model was the one adopted, so that evaluative elements were embedded within the site (through reflective questions) as well as in the practical development of the site (through formative user feedback). The decision to adopt this model was taken as a result of my reviewing various evaluation methods in relation to creative practice, for the publication *Evaluating Creativity: Making and Learning by Young People* (Sefton–Green & Sinker, 2000).

As I have said previously the parameters for the kinds of artists that DARE features were in some ways set by the involvement of inIVA (3.3), namely contemporary artists drawn from a broad range of creative practices and cultural perspectives. Within those parameters and contrary to what available resources suggested, there was a large pool of artists from which to potentially select but their work existed in very disparate forms and was sometimes poorly documented or unpublished. This meant the research: identifying artists, locating information and images and obtaining clearance for using their work, was a very large task, taking more than two years. The library at inIVA has an extensive archive of international artists' works in their slide library and a very comprehensive body of international publications including exhibition and biennale catalogues, artists' monographs and critical and theoretical texts.[2] This was my first point of reference when sourcing artists and their work, supplemented by online research and visits to other reference collections such as the African and Asian Visual Artists Archive (AAVAA). This research process evolved in parallel to the excavation of meanings in the given themes and to my growing understanding of the conventions and possibilities for the design of the Web site, as I have outlined above (5.1). I will give an example:

In developing the section on *play*, I was able to edit and arrange images and ideas in various configurations, using the Post–it method and so make new connections or discover innovative routes. In my readings and research around the idea of play – including attending the *Doors of Perception* conference on Play in Amsterdam (DOP 1999) – I included texts from philosophy; psychology; cultural studies; art history; design & technology theory, literature, education and linguistics. I collected quotations from various sources, which acted both as punctuation and context for the developing subsections, initially conceived as 'transgression', 'mimicry' and 'ritual'. In

[2] inIVA's online catalogue for searching their publications collection: http://www.iniva.org/search/index?region=library Their digital archive, consisting of digitised selections of artist's works is at: http://www.iniva.org/archive/index

the early digital sketches, (figs 5.08a and 5.08b), the arrangement was slightly different with the themes existing in a sort of theoretical strand and artists' work being featured in their own online space, but these two (artists and ideas) became integrated as the research developed, through a desire for practice and theory to work in a dialectical relationship. The subsections emerged as distinct areas – although there were inevitable overlaps – through the interdisciplinary reading, viewing and through discussion within the steering group meetings. In one such discussion, for instance, the group explored parody in the work of Baz Lurhman's *Romeo and Juliet* and discussed Csikszentmihayli's flow theory while in Keith Piper's multimedia works, we considered rules and transgressions (fig. 5.09).

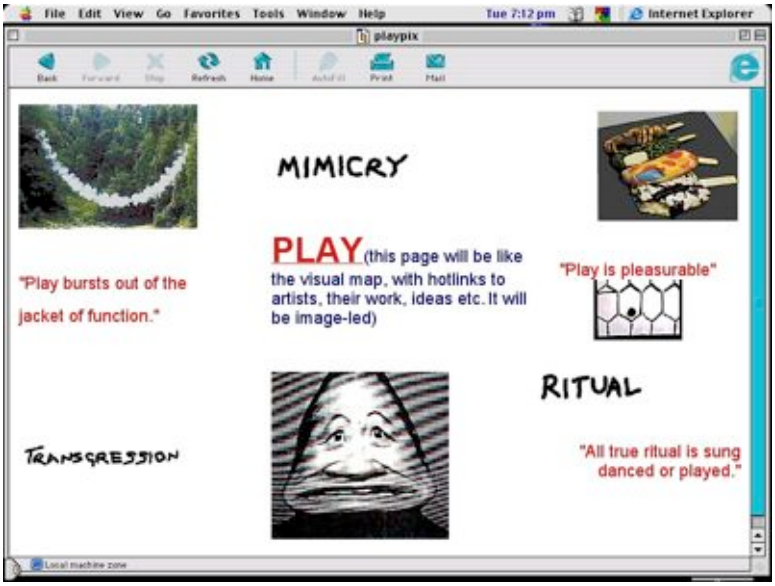

fig 5.08a The *play* section draft Web pages in image–led form

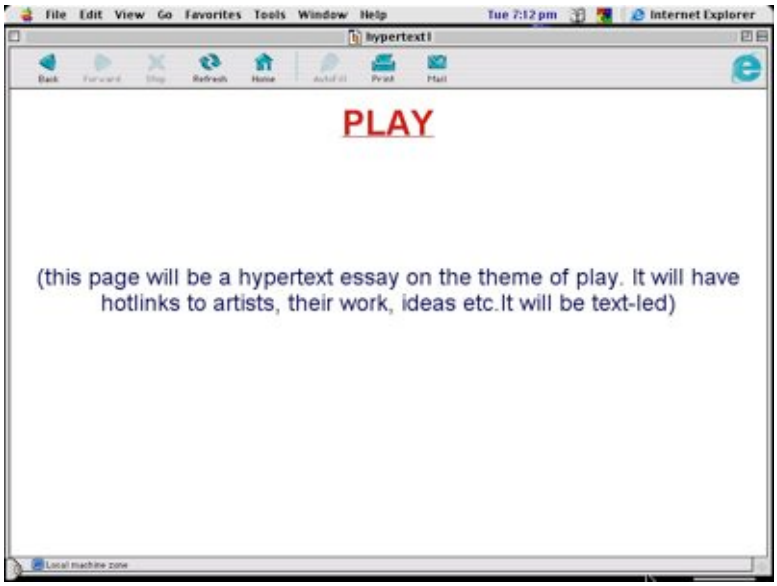

fig 5.08b The *play* section draft Web pages in text–led form

After a process of editing, organising and refining, the subsections within the *play* zone eventually coalesced as:

Play time – looking at play as a process of experimentation and a state of mind.
Play up – exploring cultural and social rules, rituals, conventions and transgressions.
Gameplay – examining rules and conventions in the sphere of games and toys.
Horseplay – about humour, jokes, wordplay, nonsense and satire.
Play House – visiting a world of make–believe, mimicry, myths and the unconscious.

fig 5.09 Keith Piper screen shot from *Relocating the Remains*

Within each one of these subsections (as within each of the *space & place* and *translation* subsections) I have written a short text overview (approx 500 wds), which outlines the main themes and ideas expressed in this section. The language is accessible and largely non–theoretical but not simplistic in that I have used appropriate art historical or cultural terms and phrases, many of which are highlighted and linked to a separate glossary page (fig 5.10). Some younger (year 7, 8 and 9) users have had some difficulty with terms and concepts when reading on their own, as I explain in Chapter 6. In once instance the teacher simply adapted the ideas and

artists' works to her own programme of study, but in another the linguistic access was a serious issue, which I address further in Chapter 7.

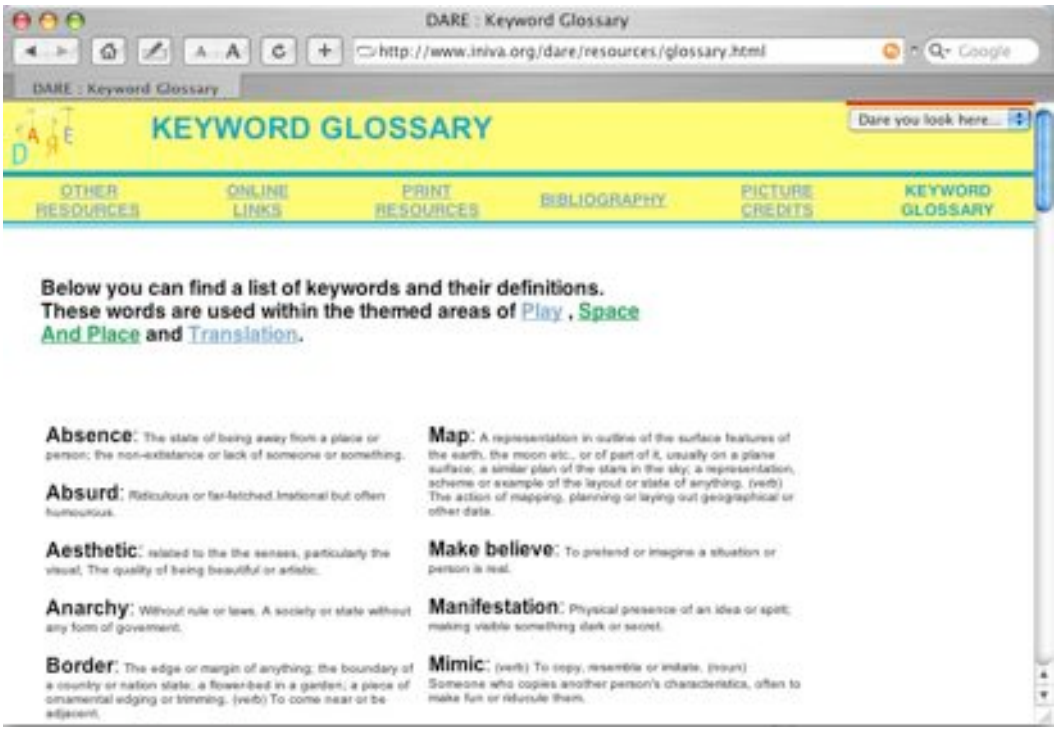

fig. 5.10 Glossary page from DARE

I do not claim the site to be comprehensive or representative in the selection of artists and I have tried to undermine the idea that it might be an alternative canon. All sections feature both internationally renowned and established veterans such as Yoko Ono, Gabriel Orozco and Takahiko Iimura alongside much less well–known young artists like Maria Amidu and Tertia Longmire. That said, Ono, Orozco and Iimura are in no way curriculum standards in the way Van Gogh or Warhol are. In order to diffuse any impression that the featured artists are the 'ideal' exponents or illustrators of a given theme, a selection of alternatives are included at the bottom of the page, with links to a reference page which, where possible, links out to other Web sites. This suggests a research trail leading beyond the DARE site, emphasising the hyperlinked, distributed, multi–authored quality of the medium as well as removing the impression that this is a definitive selection of artists. While this increased the amount of research I did, I felt it was very important that this medium could be explored in a way which revealed its constructed nature. Primarily, I chose particular artists whose work I felt was thought–provoking – sometimes troubling, sometimes moving, sometimes amusing – but above all not well–known or referenced in current

school art practice. In the net art section, I wanted users to get a first–hand experience of how artists are currently using the Internet as a unique space of production, communication and exhibition so, there are direct links into a (changing) selection of net art projects. Besides a short annotation below the project title, they are not contextualised by DARE, but open in a separate frame for the user to experience as the maker intended. This section uses a contrasting approach to viewing artists' work – where it is a site–specific encounter with work made and produced online – whereas the artists featured in the themed spaces are all contextualised with my text, including photographic representations of their work. The Internet is therefore revealed as a space for exhibition, information, encounter and exchange, within the same site.

5.3 Technical Decisions

A number of technical decisions have been taken which have had an impact on the design of the site. These were primarily informed by my research into the technical capability of the target audience (secondary school teachers and students) for DARE as well as the access or facilities they were likely to have. This was determined through the results of questionnaires sent to Art department heads in 1999 and 2002 (see appendix) as well as by statutory quantitative information such as the *Impact* and *Impact2* research (DfES/BECTA, 2000 & 2002). As these surveys revealed, art departments frequently only had one computer in the department and often without an Internet connection. However, where they were connected it was very often via a modem with relatively slow download times. The main technical decisions made in the initial design stages were:

- To create a site which was accessible to all users with version 3 or 4 of *Netscape* (Netscape Communications Corp. © 1994–1999) or *Internet Explorer* (Microsoft Corp. © 1995–2006), which the majority of schools were.
- Not to use frames as an organisational or navigation device, because of the difficulty at that time for printing materials (each frame containing a separate page, therefore not included in a printout of the 'holding' page.)
- To include dynamic elements in the form of animated GIFS because they are supported by all browsers and are relatively small files.

- Where dynamic elements had to be some other file format, such as SWF, a browser detector would supply a GIF alternative if the end–user's browser did not support *Flash*, *Shockwave* or other such files.

Other technical decisions taken between the online publication of the test site and the public launch of the final DARE Web site (May 2001), were:

- The inclusion of a *Google*–powered site search facility
- The creation of a customised discussion forum, using *Web Crossing* software, re–designed for younger users (see below & section 5.5)

Some decisions, such as the inclusion of thumbnail versions of images in addition to larger versions, have become a standard design for digitised art resources. In this case it was partially a technical decision because of the slow download speeds in many schools, particularly where the art department computers work from a 28.8k dialup connection. In DARE images of artists' work are accessible in three formats: in thumbnail and large format in the gallery section, where images are displayed with the artist's name, title of work, date and dimensions. And within the context of the artist's pages where they are resized to fit into a printable format, arranged within an invisible table, interspersed with quotations, my text about the artist's work and a selection of suggested project ideas – always beginning with the trigger question:

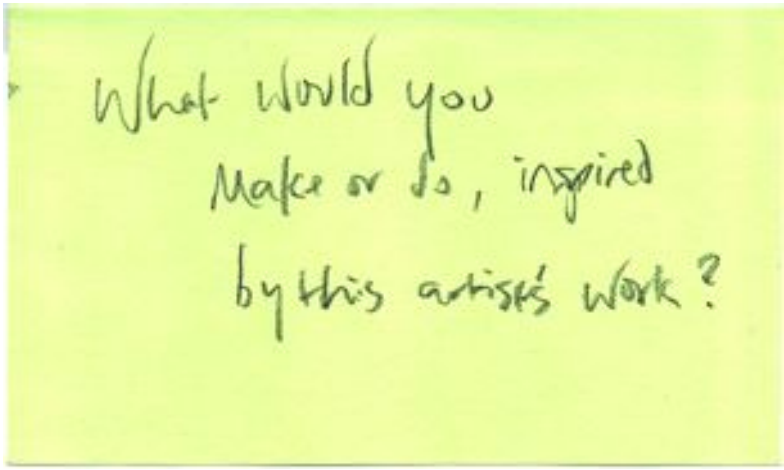

fig 5.11 Question scanned from DARE development sketch–book.

One ongoing and ultimately unresolved issue was, how to provide a simple upload facility for users to contribute their own work to the DARE site, within the education section. The examples which are currently online, were designed by school–based users – students creating their own pages, while teachers created the overall project

page – but these were all uploaded by me (fig 5.12). At the point when the site was being developed, FTP was the main method for remote users to upload files to a server but there were security issues with this method, since external users would have required access to a university server. Alternatively, all participant contributions could have been emailed to me, as the site administrator, but I felt this would ultimately prove unworkable and would undermine the autonomy and sustainability, which I was trying to achieve for the site and its users.

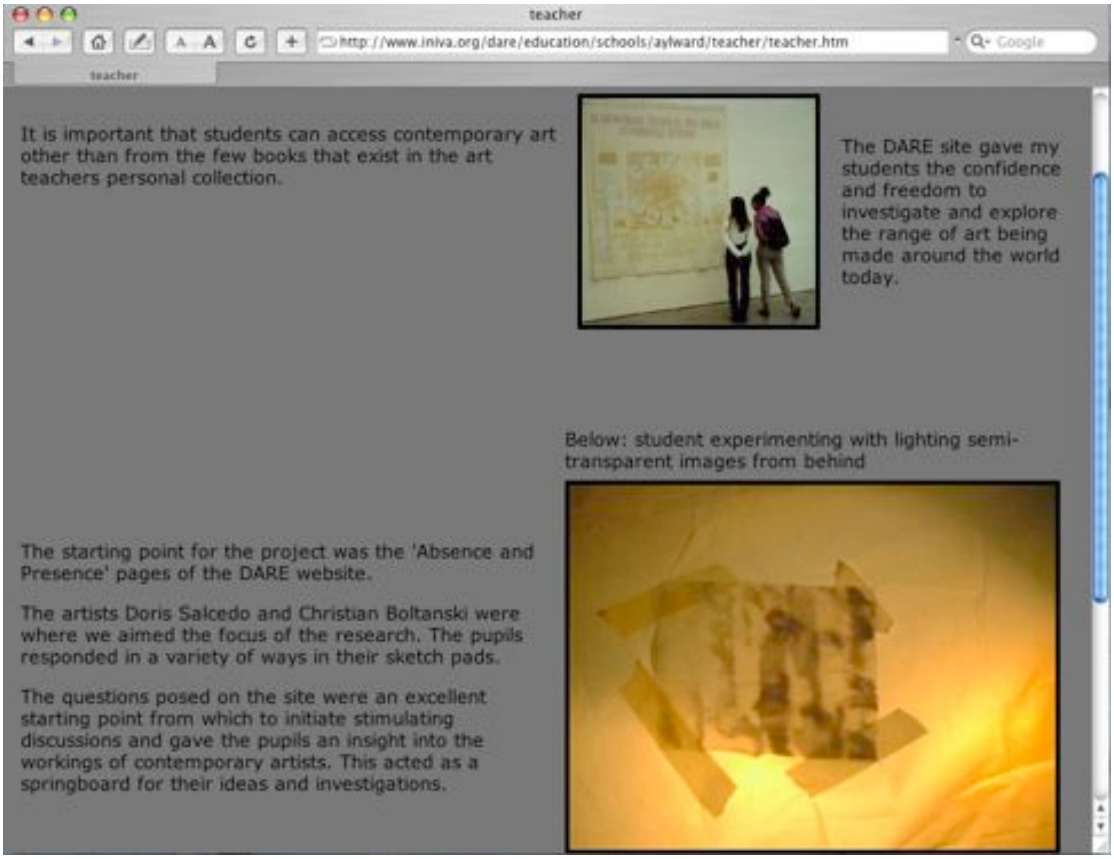

fig. 5.12 The Windmill school page from DARE

Subsequently, with the development and growing use of wiki[3] applications – particularly those which use WYSIWYG software – there is considerable scope for developing an area for user contributions. Although somewhat against the open, unhierarchical nature of the wiki, it is possible to establish a protocol where users have to be members to contribute and only the administrator has overall editing privileges, thereby adding a layer of protection to the content of the site. However, as

with a forum, designing the application does not necessarily mean people will actually use it and this can be for social reasons as much as technical ones, as I will go on to consider in later chapters.

The discussion section of DARE, *The Art Club*, was a customised space configured by two MA graduates from the Design for Interactive Media course at Middlesex. I give a more detailed description of their contributions, and the technical issues which inhibited both the facility's design and user contributions in the appendices (Appendix ? + ?). In the end, after *The Art Club* had been online for about 18 months, with little activity, the LLE Mac server which hosted it broke down and was not replaced. Subsequently the university brought all hosting under central control, at which point (2003) the DARE site moved to the inIVA server and the discussion forum has not been resurrected.

5.4 Design Decisions

DARE was conceived as a resource with multiple uses, by a mixed audience of learners and teachers, in a range of situations. This meant that decisions about language style, visual presentation and information architecture had to be tested and negotiated among user groups, to assess how one site could function with several audiences and whether there might need to be zones for the different users. This inevitably meant the scope of the resources within DARE was necessarily broad. However, as I have noted I was not able to draw on existing Web–based education resources for reference because there were none which did what DARE was trying to do. Since DARE's online publication (2001) many more galleries have their own online resources, some tailored specifically for an education audience and the number of artists' databases and archives has multiplied. Sites which incorporate this range of features with this critical focus are rare, hence DARE retains a distinctive look and feel, four years after publication.

I found a number of (print and electronic media–based) graphic design books provided useful visual references, particularly helping me to think about the organisation of the screen space, the impact of colour and the use of typographic forms to express content (concepts, feelings, impressions), not through meaning but

[3] "A wiki (pronounced [wɪkiː], [wiːkiː] or [viːkiː]; is a web application that allows users to add content, as on an Internet forum, but also allows anyone to edit the content. Wiki also refers to the collaborative software used to create such a website." (wiki, 2005)

through design elements like size, shape, contrast and movement (Bellantoni & Woolman, 1999; Blackwell & Brodie, 1996; Resnick, 2003; Weinman & Lenz, 1996 & 1998). Resnick was particularly useful because rather than showing unique, professional designs, it illustrates a number of student assignments, thereby showing a range of solutions to different visual or conceptual problems. During the design development phase I did plenty of Web browsing and began to 'screen–grab' any Web screen which appealed to me, for use as reference. For example in looking for a navigation device which would allow return users to jump straight to a chosen destination, I really liked the simplicity of this pop–up menu which did not involve the two–stage process of choosing and then pressing a separate 'go' button, but combined the actions into one click, scroll and release (fig 5.13).

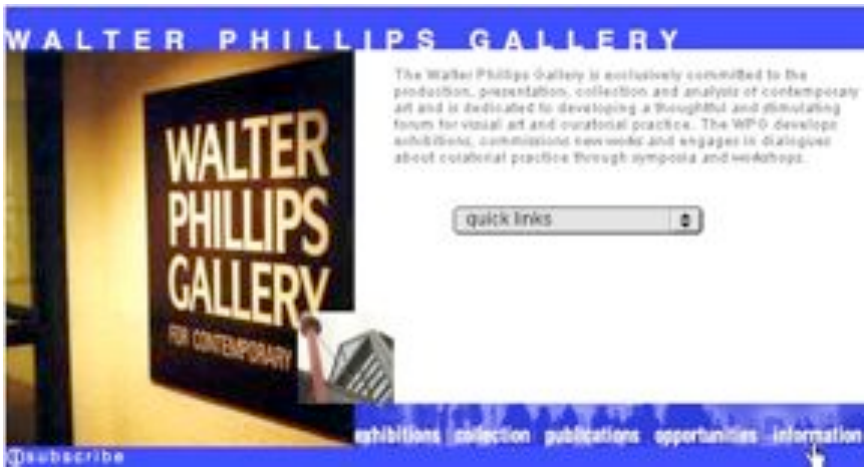

fig. 5.13 *Walter Phillips Gallery* Web site with simple pop–up menu for navigation (accessed 1999) http://www.–nmr.banffcentre.ab.ca/WPG/

I came across several sites where images (which acted as links) appeared to float on screen and "the screen works more like a canvas than a page" (Sinker 1999–2005). I adopted this metaphor for the introductory page in each themed area (fig. 5.14).

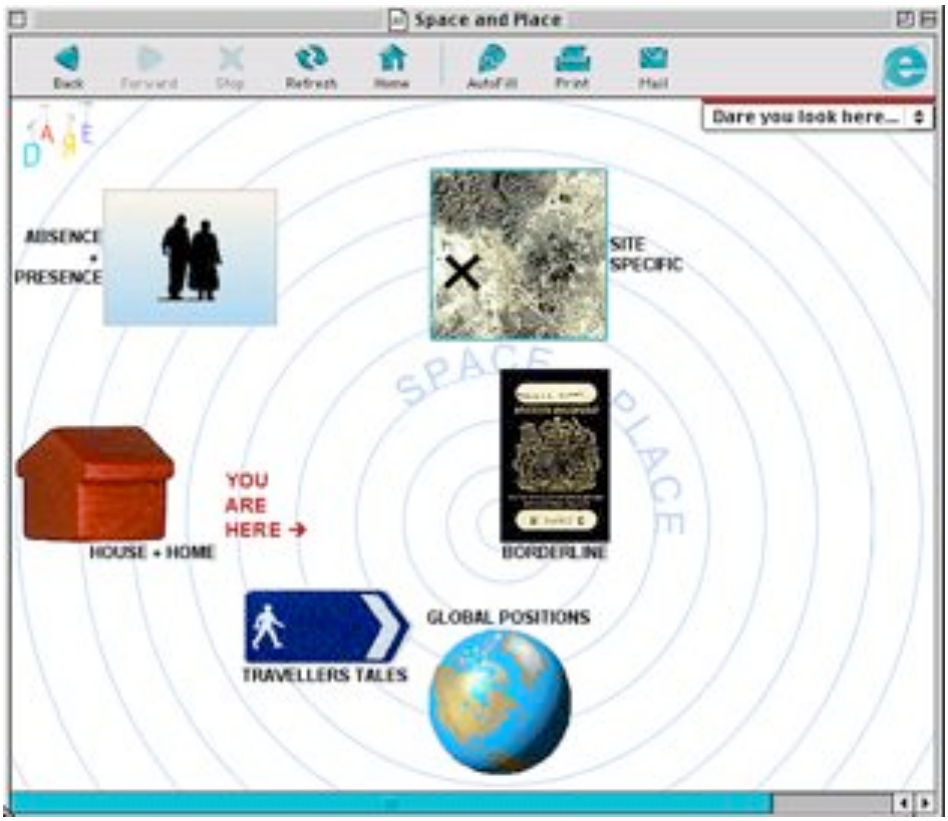

fig. 5.14 Introductory page to DARE's *space and place* section
http://www.dareonline.org/dare/themes/space/index.html

One of the first issues to resolve was the style and quantity of written material to be included. Because of the widespread access to creating word–processed and media texts on personal computers, and the relative ease with which such work can be uploaded onto a Web site, it is sometimes easy to forget the public profile this work may have. Dorner counsels writers for the Web to be as rigorous about factual and editorial accuracy as one would be in the paper–based publishing domain. (Dorner, 2002: 24). It has been noted that many early Websites took their written and graphic styles from the print–based model without really considering whether that was most appropriate for this hybrid medium. (Nielsen, 1994–2004; Dorner, 2002) Dorner notes that the print–based conventions have taken hundreds of years to evolve into the formats with which we are now so familiar, incorporating such user–friendly devices as page–numbering, paragraphs, chapters, indexes etc. (Dorner, 2002: 27). Large blocks of unbroken text are unsuitable for pages which are designed to be read on screen because studies have shown that most users find this difficult (Haas, 1996). Such issues of readability along with navigability and interaction are the key points for consideration at the starting point for any Web–based materials. These needed to

be considered in conjunction with the contextual factors such as *audience*: who it the site aimed at? *use*: what is its purpose? and *access*: from where will the site most likely be accessed and with what hardware and software? (see Chap 3)

Besides the information, the majority of the text is in the themed sections and subsections and on the artists' pages. In each subsection there is a screen–based and a print–friendly version (e.g. *playhouse* – http://www.dareonline.org/dare/themes/play/playho.htm). The printable version holds all the text and images in an invisible table structure which will print on an A4 sheet for ease of use in class or as an accessible reference (fig 5.15). The screen–based version contains a number of dynamic elements, including the text, which is accessed in chunks, via an interactive text–selection menu (fig 5.16). These dynamic pages were developed by Dimitra Viveli (see 5.5).

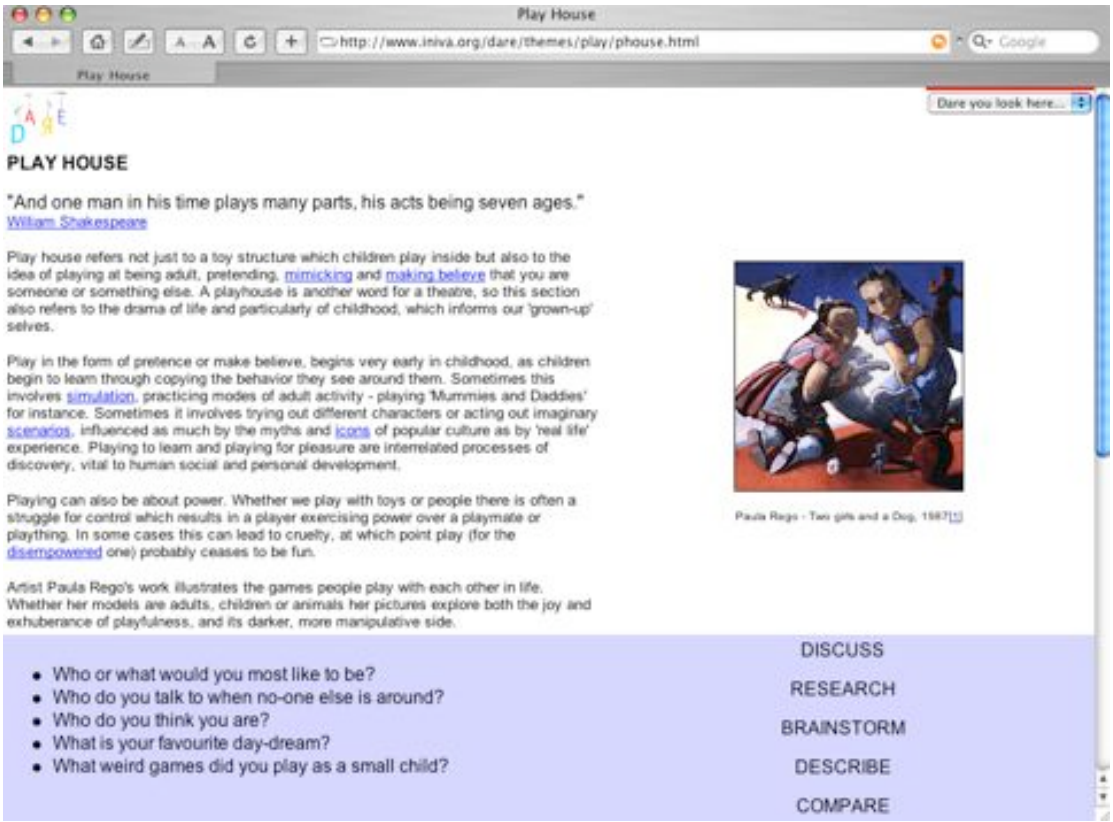

fig. 5.15 printable version of *playhouse* page http://www.dareonline.org/dare/themes/play/phouse.html

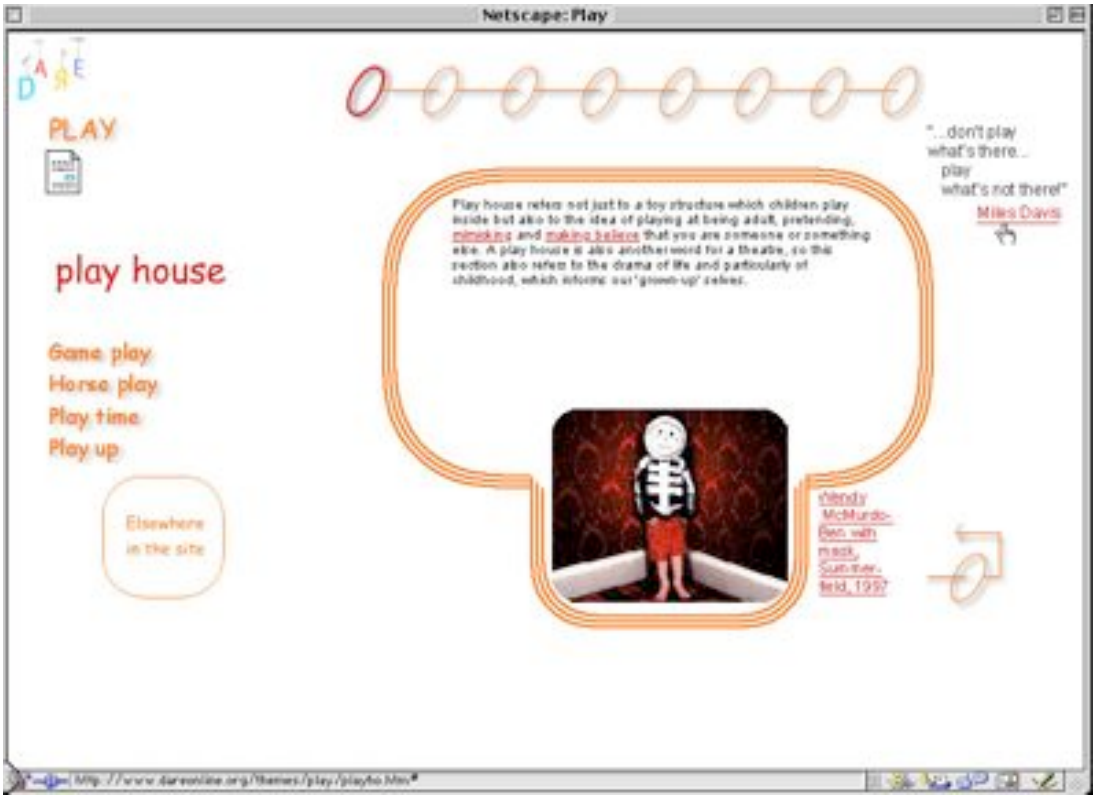

fig 5.16 dynamic version of *playhouse* page http://www.dareonline.org/dare/themes/play/playho.htm

The top level pages of the DARE site, introduce the content and give clues to what the user might expect, including a choice of navigation devices, but do not make any specific references to a target group (other than those implied by the words 'education' and 'art'), nor to how the resources might be used. Opening with a splash page allows the designer to use graphic elements to attract the user and implant a visual identity (with a logo and colour branding) but also challenges her to get a complex idea (of what the site is for) across with minimal elements (5.17). Some sites prefer to open with a home page which offers a range of menu choices (fig 5.18), while many net art works are deliberately ambiguous or opaque from the initial encounter, impelling the viewer/user to uncover meaning and intention through interaction and discovery. Again, taking a cue from a number of such net art projects and driven by a desire to raise questions in the mind of the user, I wanted to resource to be 'porous' so that various audiences could take what they needed and adapt it to their own particular use. For this reason there are no explicit references to the National Curriculum, nor to particular key stages or assessment levels.

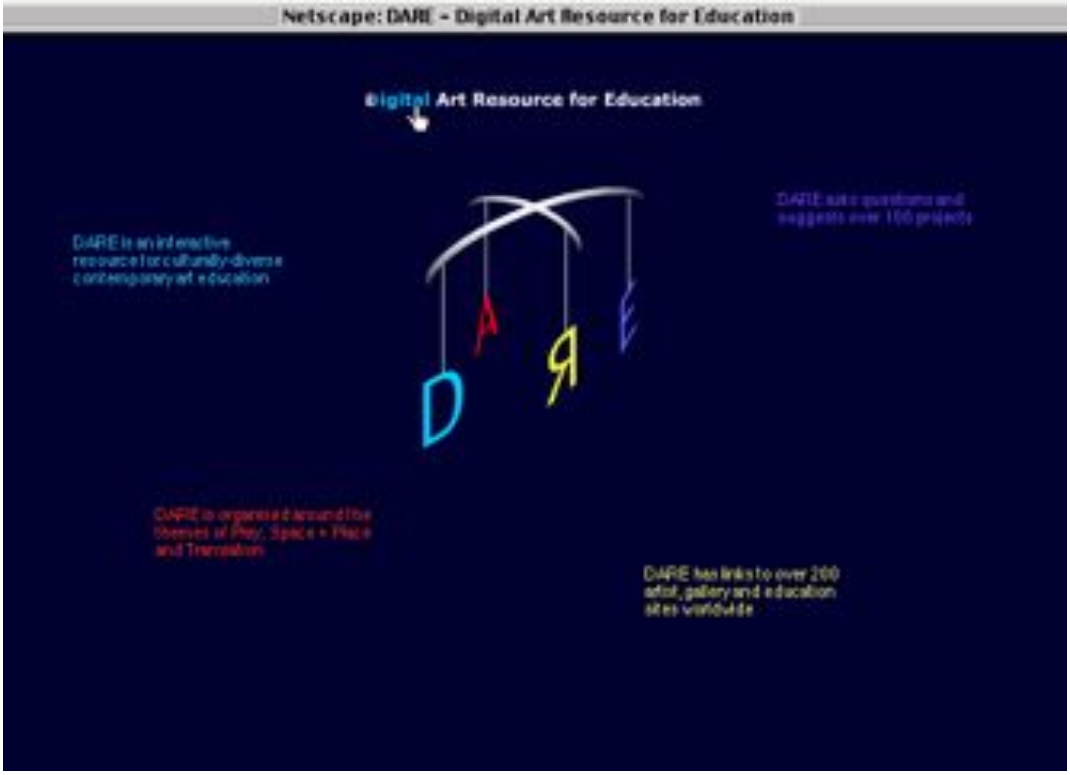

fig. 5.17 DARE splash page http://www.dareonline.org

fig 5.18 *Creative Chemistry* education resource and information site, homepage (accessed 2005) http://www.creative–chemistry.org.uk/index.htm

The variety of site navigation devices include: the title words – Digital Art Resource for Education – each of which leads to the one of the four main areas (as outlined earlier in section 5.2); the pop–up menu in the top right corner, designed for repeat users to jump straight to the section they need and; the search facility and; the site map (fig 5.19), which allows users to orientate themselves within DARE and see the contents and connections in an interactive visual format. In my head I imagined the elements of DARE as interconnected clusters, which is how the constellation diagram developed, as much for my own orientation as for site users. In the interactive environment of hypermedia, "the computer user is asked to follow the mental trajectory of the new media designer." (Manovich, 2001:61)

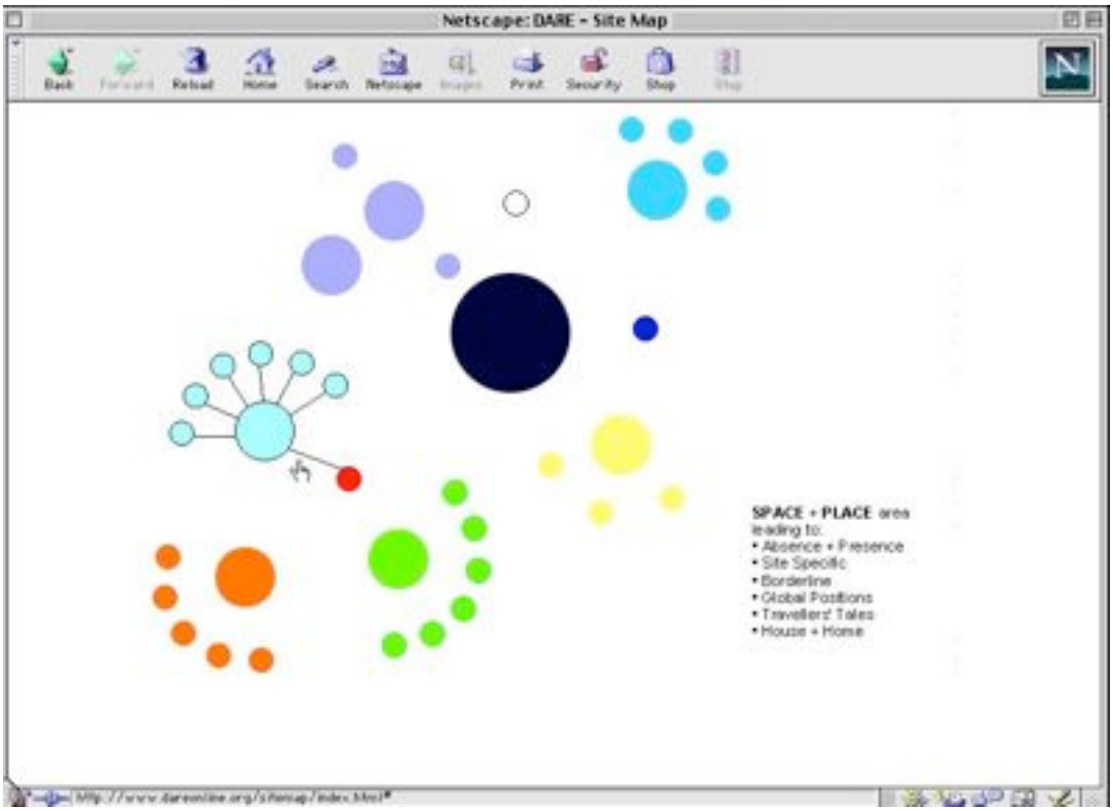

fig. 5.19 Current DARE sitemap (2005)

The design of the DARE site has evolved from the early Web 'sketches' (fig 5.20), which were created in *Claris Homepage* (Claris Inc. © (1995–1998), into the current version largely made in *Dreamweaver* (op.cit.) with some additional sections of html and javascript coding (fig 5.21).

The details of what each section contains are revealed (on the homepage and site map) by rollovers on the title words or coloured blobs, rather than listed onscreen, giving a less cluttered first impression and creating a sense of intrigue for the user.

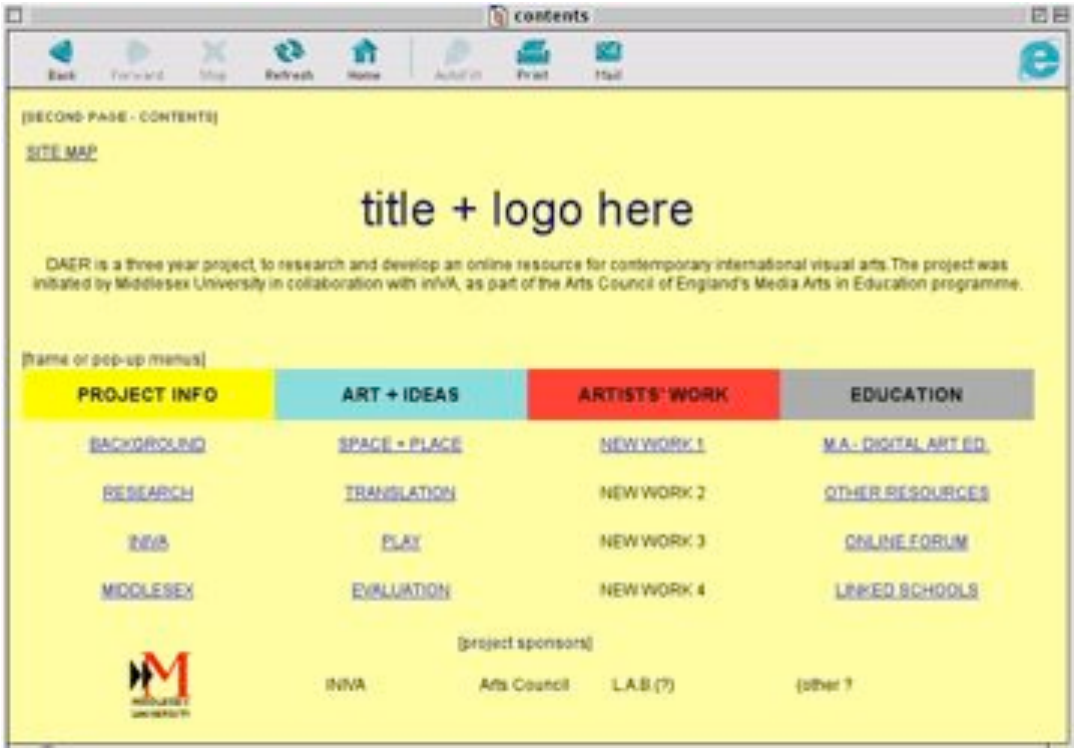

fig 5.20 DAER homepage draft, showing site contents and structure, created in *Claris Homepage* (1999)

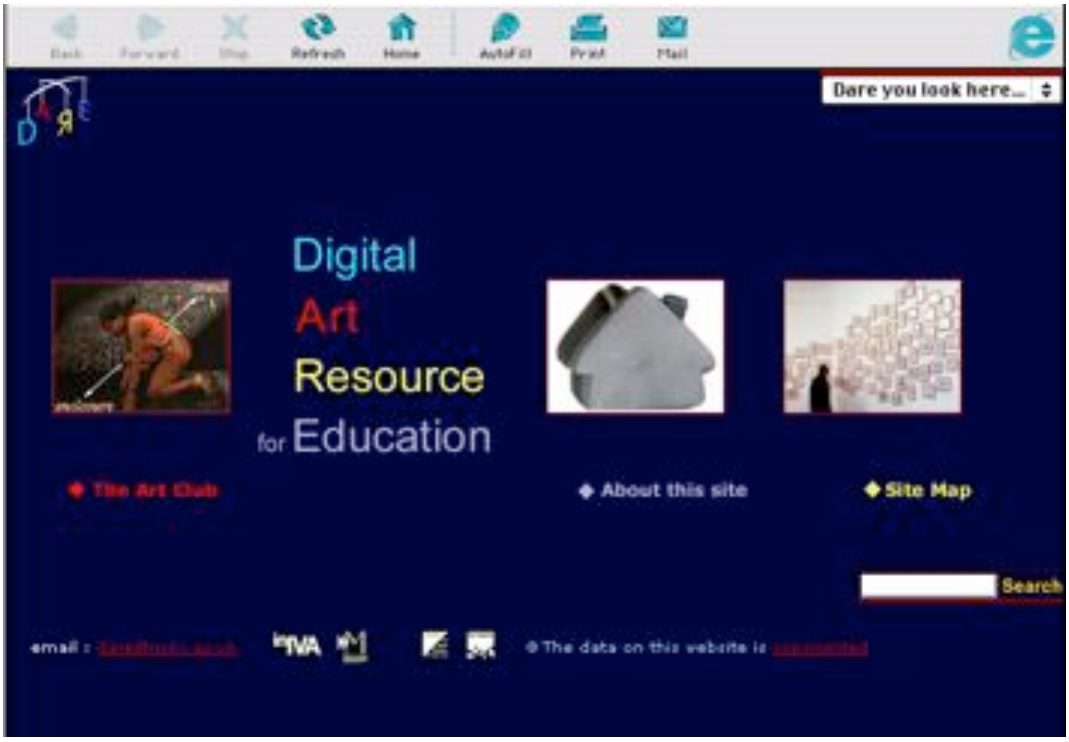

fig 5.21 DARE homepage http://www.dareonline.org (2004)

Working on a variety of levels, the site allows for shallow (references only) or deep (artist's pages with project suggestions) engagements. In this way it can accommodate a range of user experiences and expectations. The site structure underlines a research–led approach with its variety of additional resources and links, emphasising the relationship between research, production, teaching and learning and is overtly interdisciplinary, both in its thematic form and the nature of artist featured, as well as the project suggestions made. As my notes on teaching and learning with DARE state "DARE does not take a narrow, subject–specific view of art..." but rather sees art practice as having relevance to social, cultural and political life within and beyond the school environment, much as Joseph Beuys believed:

> "The isolated concept of art education must be done away with and the artistic element must be embodied in every subject, whether it is our mother tongue, geography, mathematics or gymnastics." (Beuys, 1972: 226)

5.5 External Input

Throughout the design and development process I have had informal critical feedback from other people. This has included the steering team for the DARE

project as well as artists and designers. In addition several people were employed to provide distinct creative and technical input. I have accounted for the more formal feedback in Chapter 6 but here I will specify the creative responsibilities of those who have contributed to the DARE site, explaining our working relationship. I had technical help with back-end programming from Giovanni D'Angelo but this did not impact on design of DARE. While the overall design and content decisions were my responsibility, I sought specific design expertise in a number of areas from three other designer/programmers.

The logo for DARE (fig. 5.22) was created by Usha Agarwal–Hollands, following an audit of the test DARE site with Gary Stewart, inIVA's Head of Multimedia. He disliked the logo I was using (fig. 5.23) and we both felt it was important to "bring in a typographic designer to create both screen and print–based logs so DARE has a strong identity." (Sinker, 2000). I requested a dynamic piece which would work as the central feature on a splash page as well as in still format on subsequent pages and all accompanying promotional material. In this sense I wanted it to act as a visual 'ident' and to embody the spirit of play and flexibility which was a core value for DARE. The piece was made as a Shockwave Flash asset (with a still GIF version for non–Flash users) and also a high resolution TIFF for printed publicity.

fig 5.22 Current DARE logo

fig 5.23 My first DARE logo

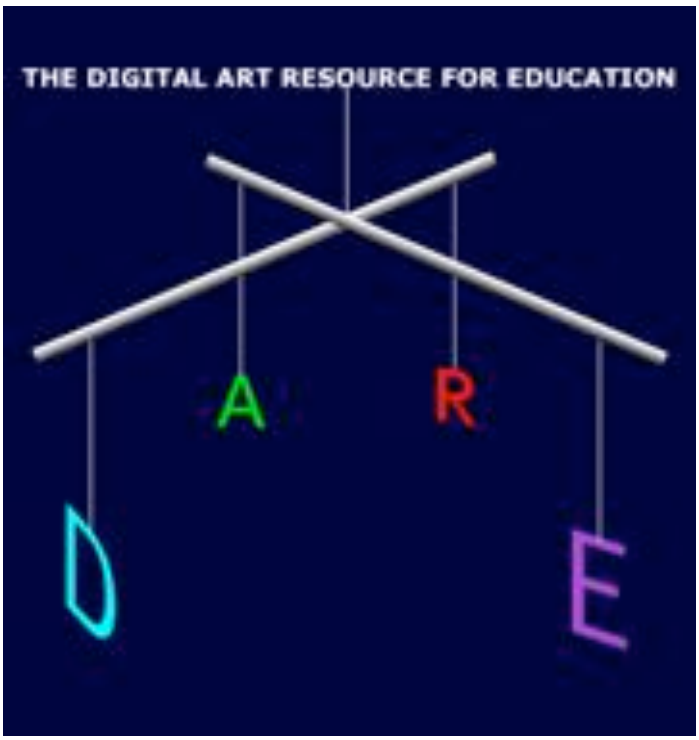

fig 5.24 Agarwal–Hollands DARE logo (first version)

Although the figure of a mobile could be associated with very young children, it also has a place in the history of modern art, most memorably through the kinetic sculpture of Alexander Calder. The first design Agarwal–Hollands created was rather stiff and not well proportioned (fig. 5.24) but the final design was much sleeker. Stewart much preferred “the support arcs and the angle” and thought “the suspended text size looks good.” (Stewart, 2000). It is not childlike in its aesthetic, being streamlined with very simple Helvetica lettering shapes, but connotes a certain playfulness through the use of colour and the animated title letters. The hanging letters rotate gently and asymmetrically at a soothing pace. The colours of these letters were determined by the Web–safe colour pallette which I had already chosen, for each word making up the DARE acromyn on the home page and thoughout the site: ice–blue for *digital*; red for *art*; yellow for *resource*; and light purple for *education* (fig. 5.25). Each of the title words is coloured and animated when the cursor runs

over the corresponding letter in the mobile. The dark blue background works in “good contrast to the other colours and feels less severe than black.” (Sinker, 1999–2005)

DARE LOGO COLOURS

Current colour on Web site	Digital (33CCFF)	Art (FF0000)	Resource (FFFF66)	Education (9999CC)
Intensified colour for Splash page & logo	Digital (00CCFF)	Art (FF0000)	Resource (FFFF33)	Education (9966FF)

fig 5.25 Web–safe colour coding for D.A.R.E.

The three themed sections of the site (*play*, *space & place* and *translation)* are divided into 5 or 6 subsections, each of which features two artists. My initial designs were very print–based in their layout – keeping in mind that users, with possibly only one non–networked computer in the artroom, might want to print and use them as classroom resources – but on–screen they looked rather flat and too wordy. I invited MA DIM student, Dimitra Viveli to create dynamic versions of these pages, containing the same information but with a number of animated or surprise elements. This was to appeal to the audience who I surmised would be anywhere between KS 3, 4 and 5 levels (ages 11–19). She worked to my specifications but created her own solutions to a number of key problems, including the interactive text bar (fig 5.26), which allows users to run through the text in small, digestible chunks in a frame at the centre of the screen, without scrolling down the page or clicking to new pages.

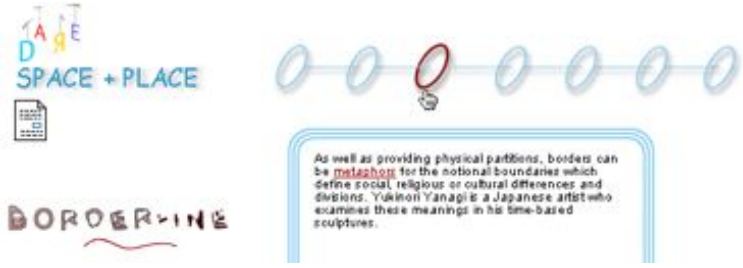

fig. 5.26 *Borderline* interactive text–selection bar

Another feature of these dynamic pages are the animated title words, e.g. *borderline* which illustrate the meaning of the word or phrase through animated text.

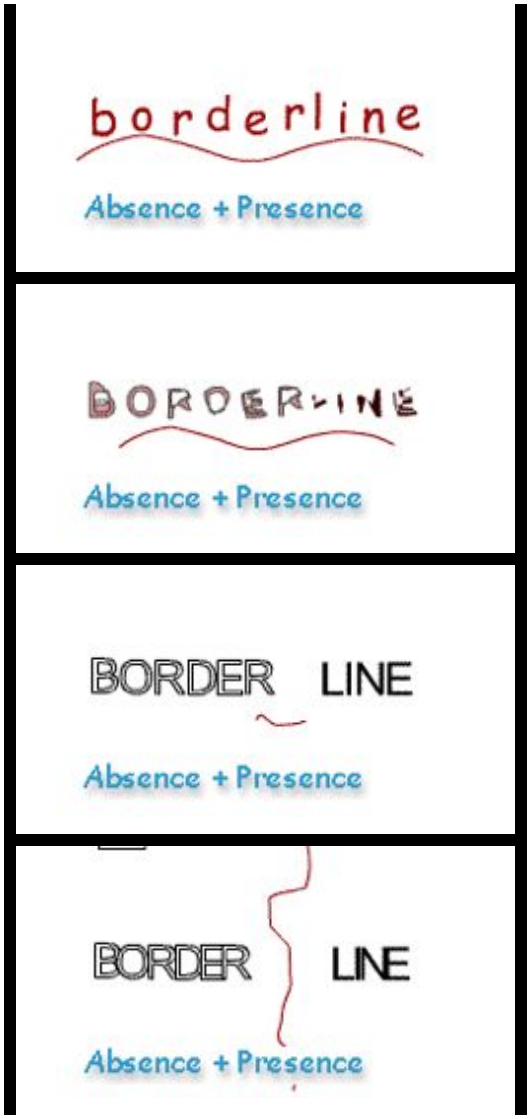

Fig 5.27 *Borderline* (frames from title word animation)

For example, the single underlined word 'borderline' morphs into two words with different fonts, while the underline becomes a vertical boundary separating them (fig. 5.27). These were created and tested by Viveli using *Flash*, with me making suggestions about font choice, speed of transition and animated interpretation. The themed areas establish a visual convention with the text–bar top centre and text frame in the centre, the internal menu (to other subsections within the same section) on the left and a dynamic *Flash* menu to the rest of the Website in the bottom left corner. All these pages are colour–coded to help identify the area (pale blue for *space & place*; orange for *play*; bright green for *translation*) and I specified that these colours be maintained in all the menu text, the onscreen framing or navigation icons.

From my experience with the programme *Hyperstudio* at Rosendale School, I had noticed how young users often enjoyed hidden elements within interactive pages. I had incorporated a couple of these on the main themed pages and asked Dimitra to create hidden rollovers for the quotations on the subsection pages. The intention here was partly to make them more incidental (they don't head the text in the way they do on the print–friendly pages) and also to make them seem like 'interjections'. As the user moves across the page, quotations pop up as conceptual triggers, their appearance and disappearance being a visual metaphor for ideas coming to mind. (fig 5.28)

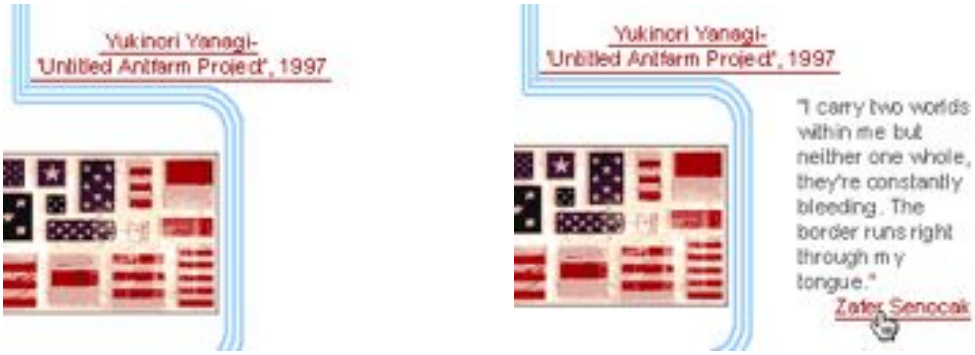

Fig 5.28 Invisible quote button which appears when rolled over.

The other key feature of these interactive pages was the creation of an interactive question cube, which is triggered by clicking a button on the dynamic theme page, thus opening a separate window. The cube has a different critical thinking verb on each facet and can be rotated by the user (fig 5.29) while, surrounding the cube, are a set of trigger questions. These questions don't directly lead anywhere,

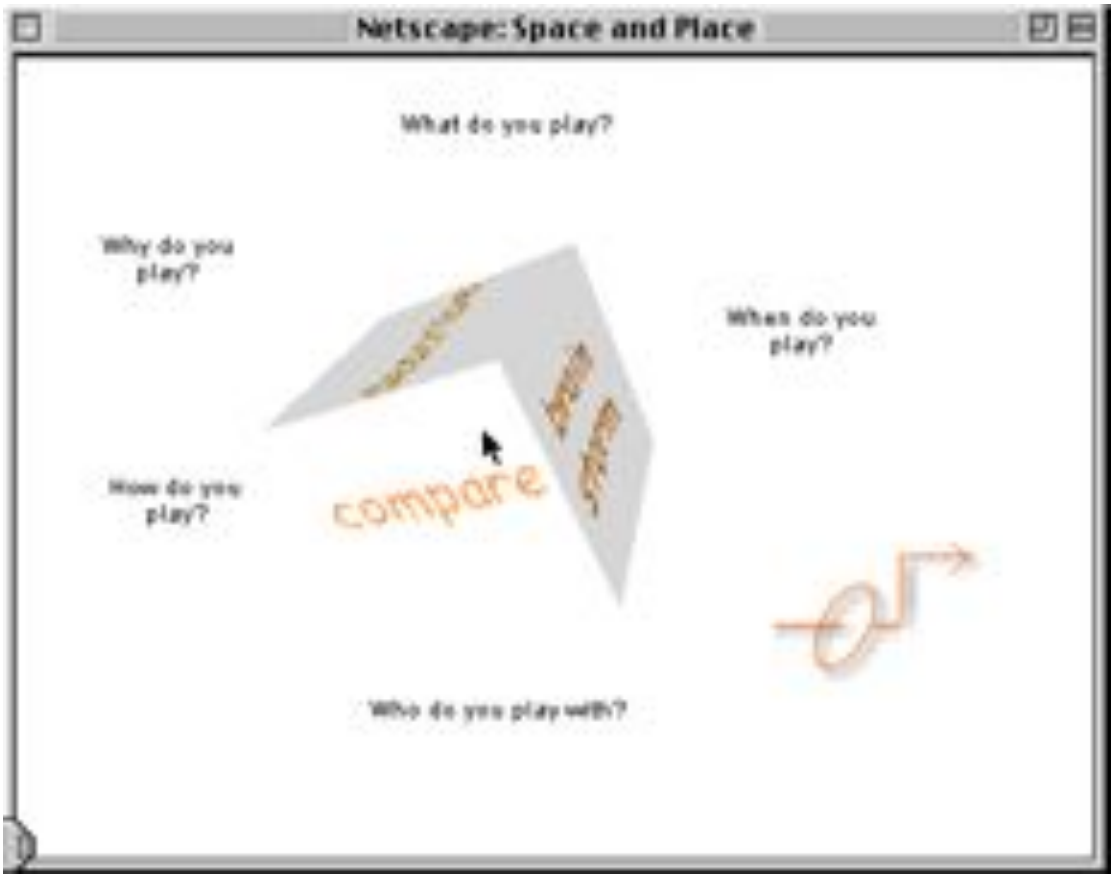

fig 5.29 Interactive (Java) question cube

and the cube just spins (at variable speeds), but – like the hidden rollovers – the whole thing is designed to raise questions and spark connections for the user to then take in whichever direction they feel prompted.

This questioning or reflective approach to making is a foundation of the whole site and was used as a basis for the linked online forum. The concept for this space was an art club, like an extra–curricular space where young users could (virtually) meet and discuss art–related issues (fig 5.30). MA student Petros Lafazanidis recoded the programme *Web Crossing* to incorporate my discussion threads and questions and the customised buttons designed by Dimitra Viveli, but in the end this feature has not been a successful element of DARE, as I go on to discuss (7.4) For more detail on how it was devised and developed see Appendix ?.

fig 5.30 *The Art Club* discussion space introductory page

I feel there were reasons besides the technical problems, why users were not able to contribute to the Art Club, which relate to the particular characteristics of online forums and the difficulties with engaging users in virtual discussions, in spaces where they do not have sufficient ownership or the confidence to contribute. While the discussion space had periodic contributions, the only time it was used in any concerted way was at the public launch of the site, where people who already knew (and could see) each other began posting responses. The area of online forums in education is one that I was not able to fully explore within this study but it is certainly worthy of further research.

5.6 Concluding notes

In this chapter, I have described and illustrated the main elements of the design and development process in creating the DARE Web site. This section is necessarily abbreviated and condenses the reflective practice of over three years' creative work, in addition to the subsequent developments and revisions, which have gone into maintaining DARE since 2001. Above all, what I have tried to convey is how DARE

was informed more by my experiences of learning through art, as an artist, than by either established orthodox visions for art education or emerging conventions for online learning environments. In chapter 6, I will examine various user responses to DARE, detailing how these have affected the formative evaluation and revision of the site and in the final chapter, I will attempt to draw some conclusions from this whole process, in relation to the particular case of this Web site. I will also be identifying new issues and questions to consider in relation to the broader question: “to what extent is the Internet an appropriate medium for learning through and about contemporary visual art?”
(6460)

CHAPTER 6. Evaluating DARE

In the preceding chapters, I have provided a context for the development of the DARE Web site, examining art and education practices at the time of the project's conception and outlining how DARE might address the perceived gap between these practices. In the previous chapter I gave a critical account of the development of DARE from my perspective as an artist/educator, and here I will contextualise and analyse the evaluation of DARE, in its use by students and teachers at Middlesex University and two London Schools.

In clarifying the research question (chapter 1) I examined the concepts of learning through and about art, distinguishing the transfer of (historical) subject knowledge, from the creative, reflective exploration of visual cultural practices. I also noted the various the attempts to diversify and modernise the school art curriculum (chapter 2) as well as some of the reasons for the slow evolution of proposed changes. It is in the context of a critically engaged concept of (contemporary) art practice, informed by and informing aesthetic, social, cultural and political issues that I broke down the original research question. Moreover, the knowledge that teachers (and students) have found it very difficult to access such artists and practices shaped both the creation and the evaluation of DARE. Therefore the evaluation questions arising from the aims and intended use of DARE are:

- Does DARE encourage critical and creative activity (if so what sort)?
- Does DARE extend available resources (if so how)?
- Does DARE facilitate critical engagement with international contemporary art and wider cultural issues?

This chapter is based on the analysis of evaluative materials from two main sources: Firstly, the semi–structured interviews with the secondary school students and teachers at Windmill School (July 2000)[1], who evaluated the DARE site in pilot and published form, and an externally commissioned evaluation report on the use of DARE at Chantry school (2001/2002). Secondly, informal documented discussions with PGCE students (2001–2005) who have used the site, both as reference or trigger for their own creative work and, in some cases, as a resource for developing

programmes of work in their school placements. In addition to this material, I will also refer to a recorded critical discussion on part of this evaluation by an expert panel.

As in chapter 5, this chapter is written in the first person register, reflecting my role as researcher/practitioner, applying the key research tools: the semi–structured interview, in–situ observation and the use of reflective journals. Drawing on these materials, including excerpts where appropriate to support the argument, this chapter reveals a range of responses to the use of DARE in various contexts, by the different users, illuminating the evaluation questions and throwing up a number of significant, recurrent problems. A number of key issues emerge from this feedback, which are identified and addressed in the final chapter. In light of these findings, the extent to which the original aims are realised or problematised will also be discussed in the concluding chapter.

6.1 Contextual background to the research participants.

This being a case study, contextual information about the research participants is an essential componant. However, for reasons of word count limitations I have put some of the more detailed contextual information in the appendices (Appendix 5).

6.1.1 Pilot Schools

Initially there were two pilot schools selected to trial the pilot Web resource and give formative feedback to inform its development: Windmill School in North London and Acroyd School in East London[2]. Windmill is a large comprehensive, with a socially and ethnically mixed pupil population and is a partnership school for Middlesex University, accepting PGCE placements in several subjects including Art and Design. Acroyd School is an arts specialist school with a mixed but predominantly British Asian population. These schools were chosen after conversations with colleagues who had experience in one or other of the school Art departments, where I felt it was essential to have to support from the Head of Art, as well as the Head Teacher. After an initial INSET session with the Art department staff (including technicians) at the end of the summer 1999, I left copies of the pilot Web site on CD–ROM for the staff to try out, as they wished, with pupils and/or for their own professional research and

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[1] For a full account of this project see the paper, *Distance no Object* (Sinker, 2001)

[2] Although full permissions were sought and received, given the politicised and public nature of school resourcing and achievement, I have chosen to use pseudonyms for the schools in this thesis.

project development, along with a set of questionnaires (Appendix 4). In Spring 2000 the Web site was available for them to use online.

It became clear fairly rapidly that the Head Teacher, Head of Art and other Art department staff at Windmill were enthusiastic and excited about working with the DARE resource, which they saw as an opportunity for staff and ICT development. Having said that, the Head of Art was quick to state that she was very inexperienced with technology. ICT resourcing was poor and somewhat problematic at the school. There was an Internet connection for staff in the Art and Design office, but the computers in the classrooms had deliberately been disconnected from the school network because it ran so slowly and the Internet link was very intermittent. For pupils, Internet access was confined to short booked slots (40 minutes maximum) on one of the machines in the school library (some distance from the Art department.) There were three independent PCs in the department (across three studios), each with a CD–ROM drive.

The Head of Art (JB) decided she would use DARE to research and develop a project on identity, referencing the work of Mohini Chandra (featured on DARE) and Chris Ofili (short listed for that year's Turner Prize, but not featured on DARE), with her Year 7 group. Following preliminary trials, she decided to direct and mediate the resource usage, primarily because she felt the language level used on DARE was not accessible or appropriate for this age group, particularly since the school has a high level of pupils with special needs status.

The other teacher (SQ) was keen to let his students just try it out themselves so he chose to work with Year 12 (first year A–level) students. His initial instruction to them, "just try it out, have a go…", proved too open for these students who were not used to working in such a self–directed way. As noted by two of the students in our feedback discussion (6.2.3) the mode of working at GCSE and at A–level (prior to the introduction of AS levels in 2001) was quite different, the former being very structured and the latter being more of a developmental process. So, this teacher then selected the DARE theme *Absence and Presence* and linked it to the work of photographic artist Christian Boltanski, which he introduced to the group using one of his own art books. They then took the theme and, using the DARE site and related links, developed it in their own ways.

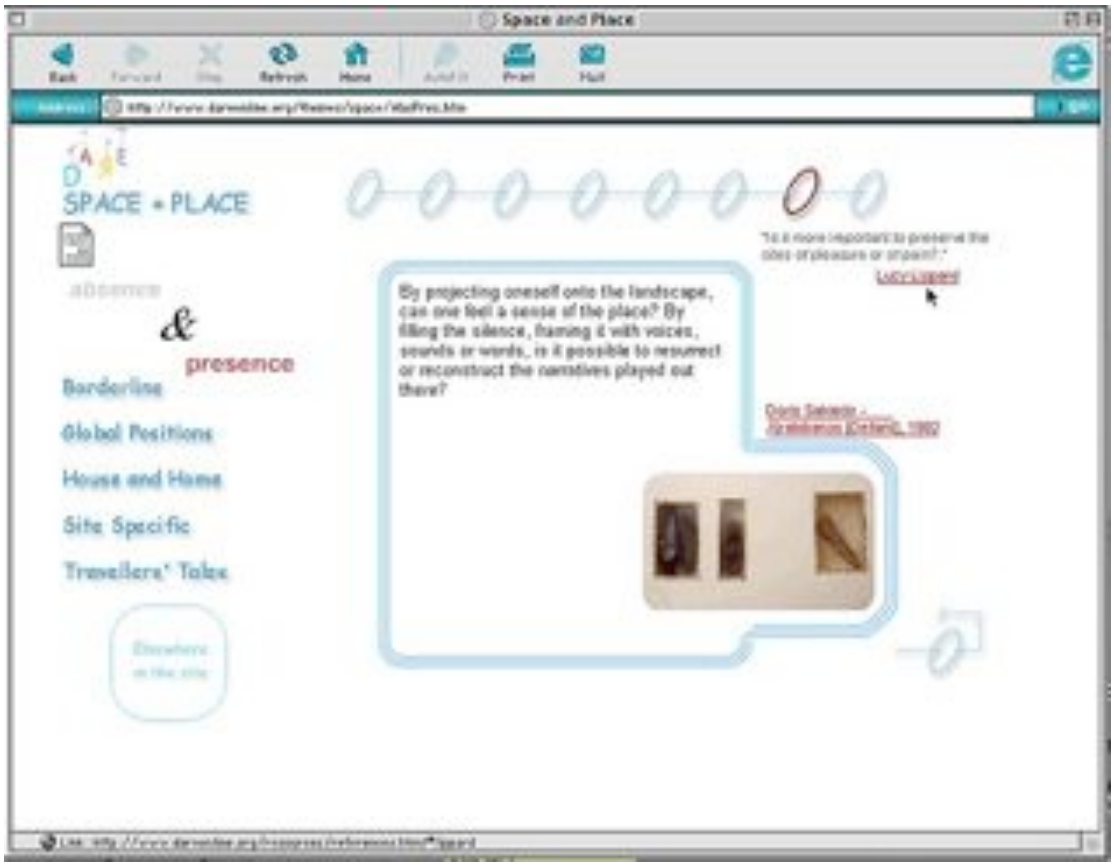

Fig. 6.0 *Absence and Presence* from the DARE Web site

At Acroyd School, the situation was somewhat different. The Head of Art expressed a desire to “take more risks and to increase their use of ICT” and they had a well-equipped dedicated computer suite within the art department. However, he stressed the excellent (exam) results that the school gained in art and design and it was apparent that he did not want to jeopardise that by making too many changes to their classroom practice and syllabus.

At that time the main Web resource the Head of Art used regularly with pupils was the *Artchive* (Harden) which features a list of artists, largely early or pre 20th Century, almost exclusively European and North American. According to this teacher, the resource was used in directed research where pupils were required to find some information on a particular artist. What pupils invariably did was search, print-out and stick in their books. Their findings were not discussed in fact this teacher said classroom discussions were not part of his way of working with KS3. By contrast a couple of the other teachers in the department were keen to initiate discussions.

Feedback from the INSET indicated positive responses from the staff to the themes and links, but on a subsequent visit, none of them had re–visited the site or referred to it in any planning. On my final visit (Dec 1999) the Head of Art said he would be piloting the QCA exemplar materials so unless DARE was tailored to fit these, he doubted that the department would have time to use them. This school dropped out of the project in early 2000.

Once DARE was published in May 2000, I felt I needed further evaluative evidence of how it was being used in the classroom, in addition to the feedback from Windmill School. In June that year I was approached by the new Head of Art (indicated in the text and interview excerpts as FW) at Chantry school in North London, who said how much she liked the resource and planned to use it within a Year 10 project the following term.

Chantry is a comprehensive school in North London with a socially and culturally mixed intake of 1000 pupils. The Art Department has three studios on the top floor of the building, including a small, open–air sculpture court. There is only one PC, sited in the department office for teachers' use only. To use computers the department must book time in one of the ICT rooms – on another floor. In these suites pupils have individual access to the Internet and the teacher has an electronic whiteboard, but Art and Design software and colour printing facilities are limited.

FW's intention was to use DARE to back up a scheme of work based on the theme of 'Natural Forms' – which was mainly an observational drawing project looking at Georgia O'Keefe's work – with DARE providing much of the contextual and critical studies element. The theme was suggested by the newly introduced Edexcel GCSE syllabus. One of FW's objectives was to "encourage pupils to become fluent users of the resource for both present and future needs." (Buchanan, 2002: 2). However, a number of problems were identified at this stage, one being the varying ability and language levels in the group (making the whole class teaching sessions in the ICT suite difficult) and another being the awkward fit between the traditional 'Natural Forms' theme and the more contemporary and conceptual nature of DARE's content and approaches. Towards the end of term FW changed the project to a theme of 'Journeys' (from a previous GSCE examination syllabus), which she linked to some

of the ideas in DARE's *Space + Place* section, particularly *House and Home* and *Travellers' Tales*.

In contrast to the use of DARE at Windmill, I was not present at any of the classroom sessions when DARE was used at Chantry School, nor did I speak to the teacher or pupils about their work. The project was observed and documented by the evaluator, who provides a different perspective.

The school–based evaluative material in this chapter is drawn from Alyward School and Chantry School only, because there is not sufficient data to include the Acroyd experiences in the evaluation. Extracts from this material will be considered in section 6.2 but here I will contextualise the other main user group.

6.1.2 PGCE students

The PGCE Art & Design at Middlesex has a strong research–based component which advocates "exploring the 'why' of art education as well as the 'what' and 'how'." (GTTR, 2005: 57). As part of this approach, since 2001, students have been given a pre–course project which requires that they explore DARE and use part of it as a starting point to research and develop a piece of creative work, including consideration of how they might develop such work in a school context (Appendix 6). At the start of the course each year there is a feedback session, when they present this work to their peers in two tutor groups. The artwork and developmental material which the PGCE students present, reveal their processes of research and the points of critical engagement with the art and ideas featured on DARE. I have been present at one of these feedback sessions (2003) while in other years the session has been documented on video or audio. When I was present I asked specific questions about their use of DARE, while on the other occasions, students gave more spontaneous feedback about the project. In 2004 and 2005 I spoke afterwards to a small number of the students, selected by the course leaders, who had made particular comments about their use of the site during the feedback session. From this data I have been able to gauge the changing levels of competency and fluency and some change in attitude towards the use of Web–based or digital materials. I have also been able to monitor whether, even in this small sample, DARE provides access to a broad range of contemporary artists and issues not covered elsewhere. In addition, the feedback in the form of semi–structured discussion sessions, gives a useful indication of the

extent to which DARE meets or confounds student's expectations of an art education resource, as is revealed in their comments (6.3).

6.1.3 Focus Group

Following the formative and summative evaluation at Windmill, a focus group of experts was gathered to critically discuss the key evaluation questions in relation to the interview material. The group consisted of a multimedia art professional; an education research professor; an arts funder; a secondary art & design ITE lecturer a digital media academic and myself.

I have used this session to apply a critical focus to my own research methods, to ensure the material was analysed effectively and reflexively (Barbour & Kitzinger, 1999). In addition it helped me to clarify which material informed the key evaluative questions as well as to identify new issues or questions arising from the development and uses of DARE, which I refer to in Chapter 7.

6.2 School Evaluations

In this section I address the evaluation criteria through observed usage and student/teacher responses in Windmill and Chantry Schools.

6.2.1 Does DARE extend available resources (if so how)?

The teachers at Windmill were already working with contemporary art and did not have to be persuaded to include this work in their classrooms. What they did want was greater access to artists' work and ideas, which would stimulate their students and help develop their own practice.

> JB – It works well here because there's a strong focus here on contemporary art in our practice and the kids are used to it… we all make sure we use contemporary art regularly and it's a strength in the school and the Web site enhances that and makes it more accessible. Accessing contemporary art is always a problem.

At Chantry one of the teacher's aims in using DARE was to enrich and extend existing knowledge of Art education resources, which the evaluator deemed to be good (including as it did, gallery visits, artists in residence and a knowledge of

available Web sites.) In particular FW wished to “use the project to introduce the pupils at Chantry to more issues–based work and more conceptual artists and to use the opportunity to move Art teaching at the school forward away from the more traditional approach.” (Buchanan, 2002: 2) In this sense she had already assessed that DARE had the potential to extend available resources within the school. This teacher was positive about how DARE supported research into contemporary and non–western artists, particularly those that are under–represented:

> FW: It hasn’t changed our views on use of the Internet – we were already using it anyway, in terms of contemporary art. Yet it showed them stuff they just hadn’t ever seen before and there are artists on there that I’d heard of and some that I hadn’t heard of at all. It does expose students to a type of work they haven’t seen before.

Both teachers at Windmill and all the school students I spoke to, also confirmed that DARE featured artists whose work they were unfamiliar with, broadeneding access to diverse artistic practices.

> SQ: It was just having it there was the important thing for them keep to going back to and looking at it and opening up the art world for them, so it enhanced my practice personally because it had that freedom to just to say ‘well, look, there’s this or that art work to see on DARE.”

DARE also led students (through the links) to the work of others online, or even to seek work in galleries.

> RS: Did you come across any artists who you'd not heard of, or...?
>
> MQ: All of them, yeah.
>
> LH: Yeah. (Laughs)
>
> RS: OK. So a lot of it was new?
>
> LH: Yeah, a lot of it was new.

> MQ: But if you've never heard of a particular artist before, and then you see it on the Web site, you might want to... if you like the way it looks on the Web site, you might want to actually see what it looks like in real life, so it'll push you to go and find the work.
>
> LH: Yeah.

Obviously this is just two student's point of view but it does contrast with a commonly voiced criticism about how viewing work online might be seen as a (lazy) substitute for seeking out art in other contexts. At Chantry the Head of Art saw the advantage of linking new work seen online to work in a gallery setting.

> FW: …when I run it again I am going to build it into a visit to a gallery so that then they saw the kind of work come to life in front of them, it would have made it much more relevant.

Of course this presupposes that the sort of work they were seeing online has been made for or is represented in galleries, which isn't always the case, especially with Web–based or site–specific work. Moreover, given the rationale for DARE, several of the featured artists are very difficult to find in other spaces or published forms, as FW concedes.

> FW: The site was a catalyst for us to go out and seek those kind of books (on Chris Ofili and other Black and non–Western artists). It's been hard to find resources on the artists that are on the Web site, which is essentially one of the points that it is making; these artists are under–represented. It's a vicious circle because they continue to be under–represented…a lot of the time you find that (these) artists are not represented by large publishers and the books you can find are expensive (whereas) books and postcards on white European male (artists) are quite cheap!

MQ and LH's teacher at Windmill mentioned the pleasure he'd felt at their recognition of artists' work at the Tate, having first come across it on DARE.

SQ: … they went to Tate Modern recently, just took themselves there and looked at the (Christian) Boltanski stuff and Doris Salcedo –the cupboard with the chair in it – and made the connection (with what they'd seen on the Web site)…
….LH and MQ came back and said 'Oh Bill Viola's at the new Tate Modern' and hearing kids talking about Bill Viola, Doris Salcedo, Christian Boltanski and all these people is great, it's exactly what you wanted isn't it, it's a springboard for anything and that's exactly how it worked.

JB worked with a younger group and noted how she had approached things differently but will equally satisfying results:

JB: – It's very different with the yr 9, but I think that's the beauty of the Web site though. I used it as a teaching resource and Sean used it with the kids and it's worked both ways. It's certainly got that flexibility. As I said before, it's very inspiring, I could sit there and write tons of lessons that might or might not work and the thing that I found exciting about my project was that I had no idea whether it was going to work…I was just going with the flow… I got in what I wanted in terms of our curriculum but I was being very open about how it might develop…

RS: and how do you feel it worked?

JB: I think it was fantastic

RS: Did it go beyond your expectations?

JB: Without a doubt. I've not done anything like that with year 9 before.

SQ: Did it open you up as an Art teacher as well ?…seeing the possibility of using digital media?

JB: Definitely. I hadn't used photography with a whole class before and I hadn't played around with mixing something like digital media with batik or whatever…yeah it really did open up this whole new world…

While my question appears to lead her, in fact I was following up on an observation from her own journal. The access to new artists, ideas and ways of working seems to have acted as a catalyst for this teacher to push her own creative practice as an educator and therefore that of her students, in to new ways of thinking and making, which leads to the second evaluation point.

6.2.2 Does DARE encourage critical and creative activity (if so what sort)?

Both teachers at Windmill felt they were taking something of a risk with this work – because it was untested and, by their own admission they did not know where it might end up – but both were very willing to work in this open ended way.

> SQ: You didn't know what we were going to do, I didn't know what we were going to do, they (students) didn't… which is the whole exciting thing for us.
>
> RS: So you found that a positive thing?
>
> SQ: Yeah totally. If I had been trying to produce something that you wanted or that you had in your mind for this to be working, I wouldn't have been able to do it. But because no one had any expectations of me and I had no expectations of the kids for a final output then that worked well with the way the Web site was, it just facilitated the process.

In her journal/sketch–book JB charted the progress of ideas in her Year 9 project:

> It's time to extend things! The project as it stands is good, it could become a batik or simply individual outcomes. Here comes the risk, to introduce another dimension and not have any final practical outcome in mind other than building on the concepts of layering and introducing the work of (Mohini) Chandra and (Chris) Ofili, add to this the range of abilities within this group and we go into freefall……. This is why it becomes so exciting!
> (Buchanan, February 2000.)

For both these teachers, the open–endedness of DARE's structure and applications was motivating and seemed to push them in new creative directions. It also opened

up discussions with pupils, about artists and ideas, which they may not otherwise have touched on and even affected issues of motivation and confidence.

> JB: It has certainly improved what was a difficult group. It's given them some status. I think they were completely bowled over with the work…
>
> SQ: 'cause they were some really tough kids in that class…
>
> JB: … extremely tough…(they were) really inspired by the way the work developed, took it on board really way beyond what I expected, especially in that video lesson, you know their comments…
>
> RS: yes the comments over the projections and the way they played with the images…they were creating new work almost the way they were playing with their photos and their batiks…
>
> JB: they were, and not needing it to be something that was there forever, something that was transient was fine. I really want to show them the video (that Gary Stewart from inIVA, made from documentation of that lesson.)
>
> SQ: You see this is how it's also linked in… MQ's doing a video installation now with 2 or 3 monitors, which she just wouldn't have done before, you know it's seeing Gary using the camera and the stuff JB's done and the projections – seeing art being time–based rather than paper–based…
> …It's difficult for an Art department to come out of its 'we make papier–mâché, collage, weaving and painting' (practice), it's difficult to move out from that and say look this is actually possible, here's some installation work, some video work, whatever… and the more they saw your (JB's) work and the work on DARE … now that they've seen it and it's opened them up …

Fig. 6.1 Year 9 images projected at the DARE launch, May 2000.

At Chantry, work with DARE was much more strongly related to contextual ideas than to practical or creative work by the students:

> FW: …(DARE) encourages contextual activity quite strongly. I didn't find it really stimulated the students desire to go and make some work or to go and explore similar techniques and I think that it is up to the teacher to make that link and to make it come alive for them.

For this teacher, some of the practical and technical constraints in the school (see , 6.1.1) along with the requirements of the particular exam syllabus being followed meant that she felt less free to play or be creative with DARE in developing her schemes of work. There was also a big problem with where the students could actually access the Web. However, this frustration ultimately led to a department review of how Art would be taught in future. Recognising that DARE lends itself to more abstract or conceptual themes and subject matter FW commented,

> FW: Using the DARE Resource has made me more open to thinking about GCSE projects for the future, not so literal in terms of using concrete images as their starting point.

The evaluator, JB, noticed that in the early sessions with DARE, in the school ICT suite, some pupils were struggling with basic navigation or with the language used on the site, while others had no problems with either. However, with this latter group, having finished the initial task they were not motivated to continue exploring, playing on the site, or to research more deeply into the works they had chosen, until prompted by the teacher (or the evaluator.) Pupils had been given the task of choosing an image from the site, copying it to their work folder and then creating a page of their own text, accompanying this image, for hard copy. Describing the second session JB noted:

> With a great deal of support from FW, pupils were completing the task. Where biographical information is lengthy pupils were selecting, cutting and pasting text, but few were absorbing and rewriting in their own words. Were they understanding? One pupil Ralph clearly understood and engaged in discussion with me about the artists and conceptual art. He had found something he could relate to and was enjoying this discovery. Others around us also offered comments indicating a range of understanding. Use of the resource was certainly encouraging contextual enquiry, however group size and teacher/pupil ratio meant that the stimulation in this kind of activity was not supported by much needed teacher prompting and questioning. (Buchanan 2002: 4)

For the A–level students at Windmill, much of their critical and creative engagement is illustrated in their sketchbooks as ideas culled from DARE are developed into their own pieces of work. In my reflective notes I have commented:

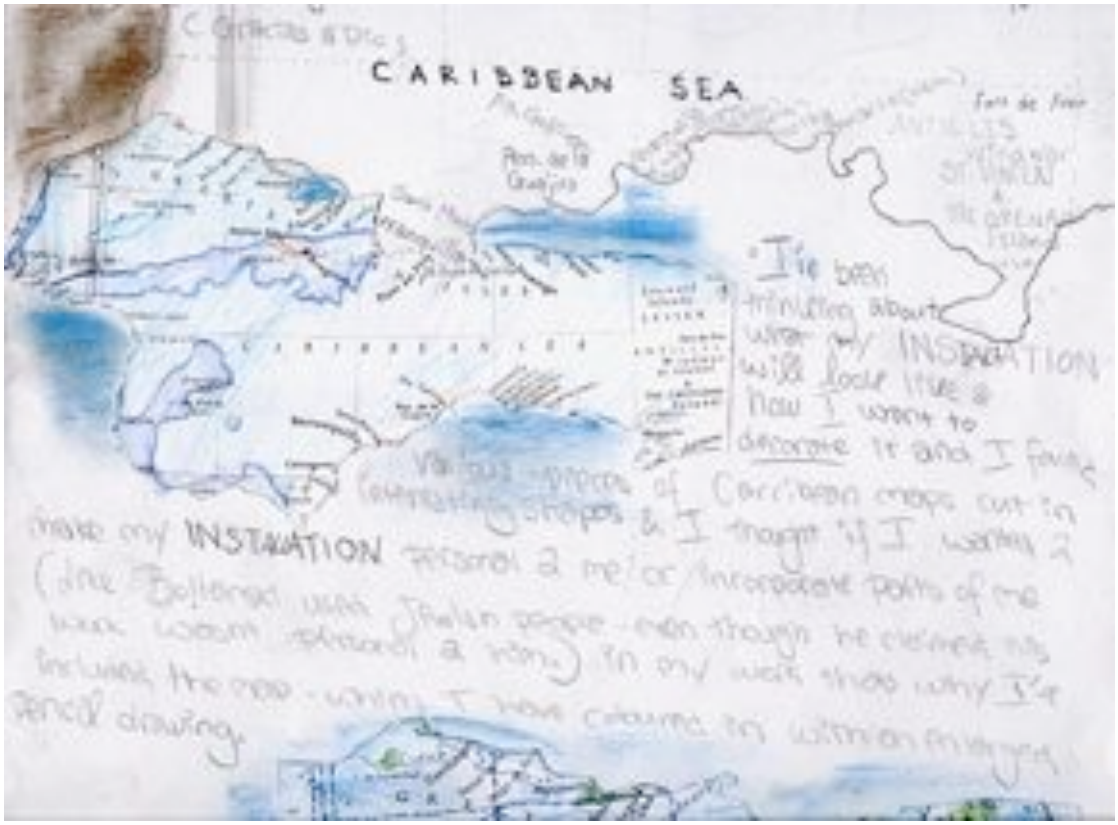

Fig. 6.2a Page from SA's sketchbook (Windmill School)

From what students were saying and from watching how they worked and looking in their sketchbooks, the critical and the practical seem enmeshed. Students were looking for ideas and influences to inform their practical work and, at the same time, they were considering the way that other artists were working. They were investigating form and ideas and the context of artists' work and they were simultaneously doing their own process of research via the Web or in libraries, galleries, through personal ephemera and an exploration of materials and techniques. (Sinker, 1999 – 2005).

Fig. 6.2b Page from RR's sketchbook (Windmill School)

I asked one of the students whether her Web page on DARE was an extension or reversion of the installation she had made but it was clear that she saw the Web work differently.

> RS: So you didn't see any relationship between the installation piece and what you've done on the site?
>
> SA: Well, I have included, like, the work from it and sketch book parts, but I was more talking about why I done it and what it means, I wasn't really talking about my installation too much, 'cause it (isn't finished). And I went and took a digital picture of it to put it on there, but I composed it on computer on there, it's not the actual piece, so I haven't really gone into depth about that.
>
> RS: So it's more... you saw your Web page as a way of actually giving a context to the work...
>
> SA: Yeah… Because... yeah, see, because that's what I don't like... when I go to art galleries sometimes... and I notice it's not just me: like, a lot of people in the Art class agree with me as well... I don't like sometimes just walking into a gallery and then not seeing no explanation of the work… so sometimes it'd be good to, like, read a bit of an explanation; obviously not too much, but something that could just put it a bit into context for you…so then I thought that was a way of doing it, kind of, and explaining.

Fig. 6.3 SA's Web page from DARE

My questioning was trying to lead her towards an explanation of the relationship between the virtual and the physical manifestations of the work, but – partly because she doesn't feel her installation is finished – she reveals how the Web page gives her the (public) space to explain her intentions for the piece (in a way the show of her work in the Lux Gallery didn't.) She relates this to how other artists' work in galleries is sometimes presented without any contextualisation, which she doesn't like. This student was extremely vocal about her ideas and opinions so her wish for an 'explanation' seems to be driven by a desire to engage with the work, rather than a need to have work spelled out for her. At another point in the interview she is clear that, given the opportunity, she would express her responses to other people's work online "... if it was really controversial and I didn't like it — like, say it was racist or something — then I would react to it and I would respond or whatever. But then if it was like really good and it appealed to me, it reminded me of, say, an artist that I liked, or my work, or just something that was new and I just liked, then I would respond, definitely."

It is unfortunate that the *Art Club* facility was never able to function effectively because this student and several of her peers might have initiated some valuable and interesting debates and, importantly, some non–editorial voices, to DARE. However, it is worth considering that it was through face–to–face engagement with artworks and with their teacher, their peers and me, that they were able to voice critical reflections. I have not been able to evaluate how effectively this would transfer into a virtual discussion space.

6.2.3 Does DARE facilitate critical engagement with international contemporary art and wider cultural issues?

At Windmill, SQ's group were working in a much more self–directed way than JB's year 9 group. Some of the students found their initial brief too open, "Because we were so used to having titles before with our work and then when he (SQ) didn't... he doesn't like giving titles, and when we didn't get one, he just gave us that artist (Boltanski) and said, 'Do something with it,' we didn't know what to do, and it took a long time to actually get going with the project." At this point SQ suggested one of DARE's themes as a starting point.

> RS: OK. ... The theme that you were working with was 'Absence and Presence', wasn't it? What did you think of that as an idea initially, when you were first given it?
>
> RR: What I did — I went to the Web site and I printed out some of the stuff, and one of the titles was '*Absence and Presence'*, and there was other ones as well. So I already had an idea, and then he told us what it was called… So I already had some research.
>
> RS: So you actually used the site before he even gave you the title?
>
> RR: Yeah.
>
> KM: Yeah, I didn't really use the title that much at first, because I couldn't really link anything with it. I had a few ideas about the installation, so I did go on your Web site and I looked at the artist Doris Salcedo and I printed off

> some of her work, and that's what influenced my work, 'cause hers is very personal, and so I thought if mine was personal to me, it would make it more... an easier way of putting it together, more of a reason to do the work.

Later, I asked this student KM, if she'd returned to DARE as her work developed:

> KM: I didn't go back on the Web site, I just went through a search for Christian Boltanski and the reason for his work and what was behind it, 'cause it said that The Day of the Dead influenced him… and I was trying to see what was behind my work, like in comparison to his.

Many of the students used the site in this way, as a trigger to find ideas or themes used by the featured artists – or written about by me in the contextualising pages – which resonated in some way with their own ideas and experiences. As RR said "It was good for a starting point, yeah, and then we got our own ideas and then we developed those."

> SA: ...I looked at one: Parminder... Kaur, yeah, that's her, and I thought, her work had some interesting connotations to it, and like, the way she was trying... 'cause she'd done tall beds, and it was... I think 'Cold Comfort'...Yeah, and it was like she wanted to try to, make people... things that people feel comfortable with and feel at home with and at ease with, like your bed or whatever, your bedroom, she wanted to try and, like, distort the way you feel about it and make you feel confused. And I liked all the connotations, but I didn't like the reasons why she done it, and I thought it was interesting to try and, like, play with how people feel and people's emotions and confuse what they're really used to and what they feel comfortable with, into being the exact opposite.

SA was actually looking through her sketchbook and showing me examples as we talked, partly because she had trouble remembering back to when the project began:

> SA: This was the one to do with Pinochet when there was a lot of people that had died, and it reminded me of Boltanski's work as well, because it's about the Jewish people in the Holocaust... first of all, the photograph took me

because of the way they strategically placed all the people's faces, and they're all portrait photos as well, and there was more than one of them; and then when you read it, it reminded me of the kind of thing about the Holocaust and everything. And this was something that was going on in contemporary, modern–day society now, so I thought it was relevant.

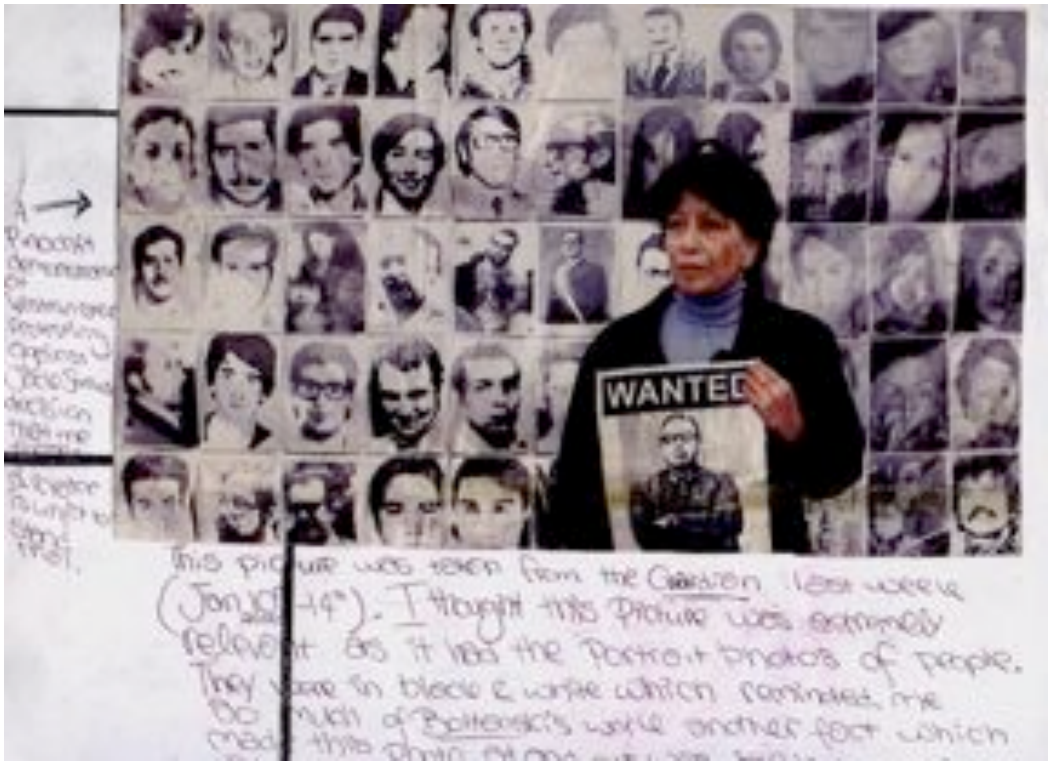

Fig. 6.4 Page from SA's sketchbook (Windmill School)

RS: Yeah, OK. That's very interesting. So... initially you might not have had many ideas, but after a while they started really flowing, did they?

SA: Yeah, definitely... As I said, that's why I couldn't really remember (what I did.) *Absence and Presence* didn't really to spark off... but then after a while it just took off ... on the Web site there was that dice (Fig 5.29) as well that, like, made you question a lot of things, and it was... I don't know... there was a lot of, like, "Why, why, why?" questions, and all relating it to your work, so then I started to look a bit deeper and at things in the media... I don't know, it was sparking off the *Absence and Presence* theme.

In the focus group discussion of these interview tapes, several people picked up on this idea of DARE as a stimulus for personal exploration:

> RA: So it seems to be that what is happening is that students bring to the experience of this site their own histories, their own patterns in their brain, their own experiences of making art, responding to it. They see something, whether it's a visual thing, a word or whatever, and a new pattern kind of…forms or suggests itself, and so they are impelled to move away and start drawing, writing in their sketch book, recording it or thinking it through, or going to a book, whatever, but they're off. It's a really exciting feeling.
>
> GS: …certainly what was evident there is the very different kind of personal journeys that students were taking from their starting point, whether it was just the thematic area or the artist…

It's important to stress, however, that the students' ideas were drawn from whole range of cultural sources and influences so DARE was really seen as another resource to draw upon, rather than being the only source of ideas.

Fig 6.5 KL's piece, made in relation to *Absence and Presence*

One student said she only used the Web site for 'a couple of brainstorms', "It was just... the memorials and remembrance stuff that I got from the *Absence and Presence* page was enough, and I just went with that." She said she got her main

ideas from a book on Boltanski and a Blur video (showing missing people pictured on milk cartons). But later in the interview she elaborated on how the site related to her own understanding of her work.

> MQ: ... just describing what the piece meant in my sketch book, I used the terms “absence” and “presence” to describe how I was disappearing off the bottles. It made it easier, I think, for me to understand what I was trying to say and for me to describe it to other people when they asked me.

A member of the focus group found it significant that MQ had “incorporated that, internalised it and then used it”, thus representing a “direct relationship between the DARE project and changes in some of their thinking.” In the course of our discussion, MQ and LH recognised a development in the value of their own making and learning, from GCSE to A–level.

> MQ: My work never really had meaning before; it wasn't important: it was just ‘get the work done and have the research to back it up.’ But this is the first piece that actually had to have meaning to it, so it was nice to hear what other people thought, and it was nice for them to come and ask me.
>
> RS: Why do you think it didn't have to have meaning before?
>
> MQ: … we didn't have as much to do — well, we've still got a lot to do, but it’s not as many different projects, so it’s easier to get a focus on one thing and then you're more likely to come up with a meaning for it because you've come so far with it.
>
> LH: ... before it was just themes and you had your research, you do a little bit, then you have your final piece, you've got your sketch pad to back it up and that's it, it’s finished. But now, actually thinking of a meaning and the process behind it, it’s a lot more advanced now, I think.
>
> RS: So do you think the reason for making work has sort of changed in a way...?

LH: … like Mr (SQ) says, it's jumping through hoops — that's what we had to do. But now we're not exactly... we're still doing the work, but we're doing it our own way and giving it meaning ourselves.

MQ: Like at GCSE, a lot of our work ended up looking the same...

LH: Yeah.

MQ: ... with us all doing the same project. But here, we are still doing the same project but we get to take it our way more, so we can totally go against it or we can follow straight on and interpret an artist's work and then make our own for other people to interpret, and it keeps on going on. It's like it's more important, so, yeah, you do feel like a proper artist, whereas before it was just "I'm doing Art just so I can get a grade."

For some of these students the opportunity to have their work included on the Web site and thus reach an audience beyond the school clearly motivated them. Furthermore, the opportunity to show their work in a gallery at the DARE launch was an introduction to that idea of audience and how those audiences bring their own meanings to the work.

LH: One good thing about your site, though, is just having people's work on it and having our work on it as well, for people around the world to see it, but also to get feedback from them, because you said that you were going to have a little e–mail thing going...

RS: Yeah, we're going to set that up.

LH: That'd be really good as well, something that you couldn't get anywhere else apart from on the Internet, really.

MQ: There was one man (at the gallery launch) who said that he was having a disagreement with a friend about it (MQ's installation – Fig 6.5), saying his friend thought it was about someone slowly losing their identity as they moved up a hierarchical ladder, and the man who spoke to me said that he thought it

was a subject of like racial identity, because I'm black — like he said, obviously — and milk bottles normally have white milk in it, so... I'm not quite... I can't remember all of it, but he really thought that it was just me emptying the bottles of the white substance and making it like a black feature with my face on it.

RS: Oh, wow! What did you think of that interpretation?

MQ: Deep. (Laughter) 'Cause it never occurred to me. I thought, "Oh, mine sounds pretty small now." (Laughter) I never expected it.

RS: It's fascinating what people read into your work, isn't it?

LH: Yeah. It gives it new meaning as well.

Fig. 6.5 MQ's installation piece.

Clearly that encounter with an audience really added a new dimension to the relationship these students have with their own work and made them think about how it might be perceived by others, as well as how they might articulate their own intentions. At Chantry, the other side of this audience dynamic was just as

interesting. FW felt her students found it stimulating to see what another school had been doing with DARE and it also inspired her own curriculum development. When asked whether using DARE had introduced or developed new creative ideas or critical concepts she felt:

> FW: It made me a lot more confident about writing a project around identity and culture and the spin off from using the project ironically ended up being a textiles project… we started looking at identity and culture and non–European cultures... talking to the students about their influence on European art; motifs and symbols and looking at the concept of journeys going right back to the very ancient crafts… We didn't have the resources to that kind of project before and looking at the DARE stuff and at some of the stuff your school (Windmill) did with year 9 made me want to develop that area.

She further commented that it would have been good to discuss work or even meet with other teachers who had run similar projects and that, having an area of the site where other young people had written critically about the artists' work in their own words (in addition to my contextualising text) might have provided access to those students with language and literacy issues.

6.2.4 Key problems identified

The evaluation inevitably uncovered problems with the site and its use in particular contexts. One central issue was the range of audiences for whom DARE was intended – Secondary pupils (11–18) and teachers/trainee teachers. JB's key reservations were about the amount of text, plus the language level and conceptual ideas used on the site. She remarked on this is in her journal:

> I was a little overwhelmed by the amount of text, and realise that it is something that needs more of my time that maybe I have to give it as head of Art… Second attempt more fruitful, played around with the site map and access to the various pages, now familiar with the layout. I feel less overwhelmed by the amount of text. It is also clear that it is not a resource that I could expect most of our pupils to use, the language is not accessible to them. (Buchanan, September 1999)

Later on, in the interview with JB and SQ, they discussed the appropriate age–levels and ideal usage of the site. My questioning here was trying to reveal how much they felt the teacher should act as the mediator for the resource.

> RS: In terms of language access, if you were to work with a GCSE group could you see a way (as DARE exists now) of working through the language with them, to make it more accessible or do you think it would have to be re–written at a different pitch?
>
> JB: I tried that, I wrote quite a few quotes up, which I thought were pretty accessible but even to the highest ability I had to explain, not only individual words but what the whole thing meant… There were many who didn't get it until I completely changed the language – because it's not just understanding the words it's understanding the concept. The higher ability students in that group, people like T, very bright, still needed me to translate.
>
> RS: Did you see that as a problem with the resource, or just part of your function as a teacher?
>
> JB: No because we're very used to translating and focusing on literacy issues but it was beyond that, it was the resource was just a bit too sophisticated. I mean where it was a quotation then obviously you have to manage that. But generally just reading the text was too heavy for them … I don't think it's a resource for pupils under KS 4 on their own. But I might have found it less inspiring if it had been written in a different language. I enjoyed reading what you wrote.

At Chantry, the same issue came up. FW felt that "as a teacher resource (DARE) is excellent" but noted the problem of language access for a class (school) with varying levels of literacy. While the more able year 10 students worked confidently with the language and concepts, completing the task, others, who were identified as SEN or ESL (see glossary) (2/3 of the total class), needed a great deal of support.

> FW: …two thirds, I think, found it hard to complete the task I set them because of the level of language on the site… they were not able to access

> the meaning of the work or the intention of the work, just by looking at the artwork itself. They needed to be able to understand the text.

When I questioned the A–level students (year 12) at Windmill about the language used they appeared happy with it.

> LH: I mean, it's easy to move around the site; it's not too complicated, the language that's used to explain is easy to understand.
>
> MQ: The language is fine.
>
> SA: Yeah, it was fine, understandable.

The other main issues identified through the evaluation, were technical resourcing and ICT skills. In its early stages there were some technical problems with DARE but these were ironed out by the time the site was launched in 2001. What the use of DARE at Chantry and Windmill highlighted in a very concrete way, were the problems which so many Art departments are dealing with, as has been examined in chapters 3 (3.2 ; 3.3), namely chronic ICT under–resourcing.

> FW: we've not got anything (ICT provision in the Art department) that's accessible to students. We've got one admin computer in the office… having asked the Advisor for Art in Islington he's told me that there isn't any school in Islington that's got good ICT resources in the Art department… In all the other schools I've worked in we have had computers in the Art room and students have been able to do digital manipulation as a matter of course and I'm finding it very frustrating being in a school where they just haven't got that opportunity, so they don't see ICT as a skill which is in their artist's tools collection.

This teacher did acknowledge that having a computer suite with an interactive whiteboard enabled her to do a whole class demonstration of how to navigate the Web site, which she was surprised to see many of them needed. She had thought, as Year 10s, their previous ICT lessons from Year 7 on would have enabled them to navigate the site pretty fluently, but for many (mainly for the linguistic reasons

described above) this was not the case. Ideally she felt that working with smaller groups on this task in the Art department, would allow her to accomplish this more effectively. She also felt that being based so far from the Art department meant that they couldn't integrate "the use of DARE, looking at the images, with the practical task", in much the way that SQ had used it with his A–level students. The Year 10 students didn't associate the computer suites with the subject of Art – "Initially they were totally confused as to why they should be spending their Art lessons in the computer room" – although she took time to talk to them about Graphic and Web Design as creative skills and professions. Later FW reflected that being able to relate artists' work on computers to similar work in gallery contexts, or to digital work which they produced themselves, was vital for students to see the relevance of ICT to Art.

> FW: The computer can create a barrier…It's not down to the quality of how the work has been presented, it's to do with their perceptions of what computers are for and how they normally use them.

At Windmill there were similar problems with a minimal ICT resourcing in the Art department, but they were not so disruptive to the projects for two reasons: JB used DARE as a teaching resource so never expected the year 9 students to navigate it on their own, instead providing them with print–outs. SQ used DARE with a smaller group of (8) A–level students who were using DARE either in their own time, or as back up (on one computer) within the lesson.

Both Windmill teachers were very keen for practical experience and skills in using digital hardware and software. We discussed the value of learning how to create their own Web sites and put those online. SQ said that he picked up the basics and that allowed him to do his own Web page and to support the students doing theirs. JB talked about her frustration at the lack of time available to complete that aspect of the work, although she was really keen to do it, and also to develop the work further using digital manipulation.

Fig. 6.7 SQ looking at DARE with some of the A–level group (Windmill School)

> SQ: It is difficult when you're learning something new, to slot that in to your normal regime… Those two days I had off timetable were the best INSET I've had in 6 years. Two full days off timetable where I did nothing but learn something new. I was given the space and the time and then the follow through of having the software on my computer so I could use it myself. That was what allowed me to get into it. I was given *time!*
>
> JB: I know it's purely idealistic but if we'd had those two days to learn how to do it and then two days to put the work onto the computer…
>
> SQ: ….I'm sure a lot of teachers would take this on board if they could go to their head teacher and say 'This is what this school have done, look at the work they've made with the kids. I need to learn how to use this, can I have a day off timetable to do it?' But I don't know how many schools would do that.

In contrast, FW had already gained considerable skills and confidence herself, in working with the equipment and software through INSET and her previous school experience, but was frustrated by the lack of time for planning. In many ways her experience with DARE was only a partial success, but where it failed she was able to identify and act on planning and resourcing issues which will make for a much

stronger and more effective project next time. Having said that it is worth considering her final comment:

> FW: What I didn't say that I should have done is that I used some examples of the children's work from the DARE project for my NOF application and got the fastest acceptance, because I was about the only person who used computers last year who wasn't an ICT teacher!

6.3 PGCE responses to using DARE

PGCE students use DARE in a similar way to the A–level students at Windmill but with less hands–on guidance. They are sent a pre–course project, to complete before they begin their PGCE in September, where they are asked to explore DARE and choose one of the themes (*Play*, *Space + Place* or *Translation*) as a starting point for a piece of creative work. As one of their tutors reiterates, "This is a project where we didn't give you a brief, we didn't say you have to make this or that, but you are responding to something as artists, craft workers and designers." This work, along with development notes, research and sketches and ideas for translating this into a classroom–based project, is shared with fellow students in the first week of term.

Here I will apply the same evaluation criteria and also list the key problems identified or raised by these groups. I will draw on both the informal group feedback sessions and the small number of semi–structured interviews I conducted. While the latter are not representative of the groups as a whole, they do illustrate how particular students have been able to engage critically and creatively with DARE. I have indicated with numbers and letters when different students are speaking, and I also include their academic year in brackets.

6.3.1 Does DARE extend available resources (if so how)?

As this was a pre–course project, students came to the DARE resource cold, in the sense that they had had no introduction to its aims or development from me or from their tutors. This is reflected in their responses to the work encountered.

> Student A (2001): It was interesting because there were quite diverse artists, like I was quite surprised to see Gomez Peña's work… because it's the

Digital Resource for Art, I was expecting more digital…I was familiar with work he did before so I would expect his work to be more related to theatre, but it was interesting to see (him) there…

Student b (2003): I think it's really nice that you've used artists a lot of people have never even heard of. I looked at the work of Faith Ringgold and thought 'wow, brilliant she's there', but it was really nice to see the range of artists that I hadn't heard of. I like the diversity actually within the site, there's a huge range of different artists.

Student B (2001): I thought there would be more about digital art so I was surprised to find all the artists who worked in such a range of different traditional and new media. It was more of a selection of pages about artists work than a collection of digital art projects.

Fig. 6.8. PGCE student's work in response to DARE artist Alison Marchant.

> Student 3 (2005): Well, first I looked at the Web site and I was quite excited because a lot of the artists that were on the Web site I actually knew certain work that they had done.

As well as producing their own work, students were asked to consider how this work (and DARE) might be used in the classroom.

> Student D (2001): I think children have such a pre–conceived idea of what art is, I think the Web site's excellent for maybe for just breaking down those barriers …for the children that I've spoken to they think it's all about 'can I draw?' and they can switch off, but we could get children to see that something maybe as simple as a journey can be translated differently by everyone…

> Student f (2003): I like the fact that you use people like Erwin Wurm – I really like his work – because his work is dealing with things that anyone can do, there's an element of comedy in it, those are the things that can actually work in a lesson… I think they're practical examples of things that can work in school and I think those artists are quite well chosen for that.

> Student e (2003): the site glossary, which I sort of stumbled across, I thought was quite handy and also something that could be used in English Language or maybe film studies, or whatever… I haven't really seen that in any other site, sort of 'we're using these terms and this is what they mean' and that wouldn't have to be art specific because critical theory goes across all the subjects.

Another student also noticed the cross–curricular potential, as demonstrated though her peers' work.

> Student b (2003): I think that another feature was that (student e's) uses of paper brought in other treatments from Science, qualities and strengths of materials… and then (student d's) work could have been used in Maths, talking about area, size… without realising it, another way of working through

> a topic – unrelated to Art and Design but somehow it marries up…. A nice way of working across the curriculum

But several people took a while to get the hang of DARE's open–ended structure and questioned whether everyone would find it accessible.

> Student i (2003): My background's graphics and I wanted to 'produce something'. I thought it was a very difficult and I went into what looked like a graphics site, I didn't think it looked like an Art site...I got my daughter to look at it too (she's 16) and she thought 'well what's the point?' Initially I was thinking well what am I doing, (my concentration's quite bad) I went into it and out again. I like seeing the colours and the graphics, the colours and the animation, not the written work… But once I got into it I enjoyed it. I printed it off, and I took the words and used them separately as a basis for brainstorming

> Student j: Is the site a resource for teachers or for students as well? We discussed that a bit. We felt that it was a great resource for us, and maybe teachers planning lessons, but didn't know how successful it would be for students, especially the younger ones, to actually engage in it, if they had to do the work themselves.

Again this raises the question, which has been directly or indirectly addressed by all users, of who can access or engage with DARE (and in what ways) and who finds it difficult, boring or even impenetrable. One of the tutors also picked this up from one of the discussions.

> Tutor: This project is kicking up for me, how some people are comfortable working in this totally open space and playing around with the site. Some children may be comfortable working in that way with very open–ended concepts and others may feel very at risk and need very defined concepts and structures.

What these exchanges reveal (every year) is that DARE does open users up to new ideas and artists' work and it can stimulate different ways of working but that not

everyone is comfortable working in such a self–directed way, as some of the following comments illustrate.

6.3.2 Does DARE encourage critical and creative activity (if so what sort)?
The openness of the pre–course project, revealed a range of responses and approaches to working with DARE.

> Student E (2001): Many people tried different ways of working to how they would normally work.
>
> Tutor (2001): so there was a conscious attempt to work in a different medium?
>
> Student E (2001): Yeah it gave me that freedom to try stuff out.

Many students simply dipped into DARE and, on finding something of interest as a trigger point, developed their work in their own direction, not referring back to the site (again much as the Windmill students had).

> Student G (2001): Personally I didn't really look at the artists' work because here was such a wealth of information in the text that I found it so hard to narrow down what I wanted to do, just by looking at the text, there was so much information… It was more in the titles, one of them was *Interpretation* so it was just that heading, that was what I did my work on.
>
> Student r (2003): I just headed straight for the glossary. I work with communication and translation anyway so that was a natural way for me to work. In many ways my piece is about the breakdown of communication as much as anything.
>
> Student H (2001): What I thought was, everyone seemed to have switched on the Web site, had a look at it, chose some of the themes, switched it off again and got on with the work. Rather than going through the Web site, researching it… I personally, I'm impatient, I don't want to go through the Web site and study every little bit, I want to get on a do it, so… just taking one

> heading rather than going through all the artists. I think there was quite a few of us that just took a heading.

A student from this group clarified that quite a few people had applied late and so their time for this project was limited which meant – unlike on their previous degree courses – they had to work very quickly. In a way, this actually relates to how they will frequently have to work in schools, with very little time for research, planning and resourcing lessons and schemes of work. But even with a relatively short engagement, several students were able to create effective work. The following student made a video which visualised process, exploring thought processes and inspiration and the constraints on this. As one of his fellow students noted "I felt (student v's) video was one of the only pieces that I saw where you really got a sense of the process of looking at the Web site,"

> Student v (2003): I spent a couple of hours on it, and I didn't go on it again. I didn't commit anything to memory I just went through it and followed my nose really. I realised quite quickly that it wasn't a linear Web site and I didn't mind that at all. I just treated it like some prose really, I just came away and did some work. I'm not sure how it ties up in the end, apart from the word *Play*… I kind of enjoyed the two hours on it but, I'm not trying… it's difficult to quantify it critically.

One of the students in 2005 came at the project a different perspective.

> Student 2 (2005): So I wanted to transform my imagination, my idea of what I was feeling about this Web site, into something real… How could I draw the linkage? And I came up with something really organic, from my head… I was trying to work out what I am seeing inside my brain, because my vision only exists here (points to head). What I see is a mixture of feelings, sounds, text, memory, everything is mixed up so I tried to translate this.

Fig. 6.8 PGCE student 2 (2005) Drawing made in response to DARE – *Space* + *Place*

In an earlier discussion with his tutor group, this student had been even more explicit about the self–questioning process he went through when moving from the initial idea formed in response to the Web site, to how he wished to represent this:

> Student 2 (2005): I decided to do *place* but I still wanted to work with the Web site. I wanted to create something that doesn't exist in reality then I started to think about how can I translate things that I have in my mind onto paper? What do I imagine when I feel the Web site? How do I see things that are not concrete or that I can't see? So I closed my eyes but I didn't see anything!

He then refers to research he did at the Science Museum earlier on in his research process, when he was thinking about creating a pop–up book which made concrete the structures and processes of the DARE Web site. While he was at the museum he came across some blown glass objects in organic shapes, along with some models of molecular structures and a visual map of the Internet. These helped him to take his research in a different direction because, " these look like how I *feel* the Web site, so I started sketching…" (my italics) He carried on his research process into how to visualise the invisible and he revisited DARE while he was constructing the drawings.

Fig. 6.8 PGCE student 2 (2005) Detail of drawing made in response to DARE

> Student 2 (2005): I continued to ask myself questions like 'how does a room behind a closed door look? Or 'how can you follow the movement of a tone?' or 'how does time look like?' And then I came to draw how I see the Web and it came out really organic with links and text overlapping each other… and the text goes around… and the pages are here…

What is so interesting about this student's work is that he is responding to the set task but quite differently from the other students – he is really examining the characteristics of the medium. At the same time he questions how he can represent these features and structures. His engagement with the idea, on both a material and a critical level is remarkable in the way he flows between form and concept.

A fellow student brought up the relationship between process and product. He said he didn't feel the work he'd made was entirely successful, but wasn't unhappy about that realisation. We spoke about trying and testing ideas out, and reworking things which he felt was a very important thing to emphasise for children and young people learning through the process of their art making.

> Student 3 (2005): A lot of people get very anxious about the end product whereas the process *is* the journey… I know I can continue to rework this. I did go back to the Web site to see how I could relate (this work) to some of the other ideas there, to see how I would translate the piece into a different area.

The issue of alleviating fears about the right way to do things, offering different perspectives and valuing different ways of working was picked up by other students in interesting ways.

> Student f (2003): There's things about the Web site in terms of navigation... I did find it slightly disparate – too many ways of getting to the same place. But one thing I did like was the way it presented things as opportunities, as starting points, not as a didactic model of how to do a lesson.

> Student b (2003): It instantly allows for discussion, which is a good starting point. Many children get worried about 'I've got to do a perfect drawing' but… discussion just frees everybody up and they can all contribute ideas which are all worthwhile…

The way DARE is used on the PGCE course actually embodies this, with a range of critical and creative responses to the resource design and content and a space for students to express both their fruitful engagements and their frustrations.

6.3.3 Does DARE facilitate critical engagement with international contemporary art and wider cultural issues?

A number of students found artists whose work they were interested in and developed their ideas from there.

> Student o (2003): I took the Yoko Ono chess set which was in the *Play* theme, and there's an exhibition called 'The Art of Chess' on at the moment, so those were the stimulus for me…

> Student 3 (2005): Well I looked at Mohini Chandra's work because I used her work in my dissertation…in particular the photos from her family that she displays, she makes you look at the back of the photograph so you have to imagine (the image). She uses the photograph as an object not just an image… also there's markings on the photo so it makes you wonder about where it's been. They look quite fragile but a photograph is a very powerful thing, so it has this mixed identity.

This student was particularly interested in the work Chandra has done challenging orthodox histories of Empire, particularly in relation to her own family history and identity, which she traces from India to Fiji to Australia and the UK.

Fig. 6.10 PGCE student 3 (2005) Work made in response to DARE artist, Mohini Chandra

Clearly, this student's ideas about Chandra's work have been developed over time since he had already researched work for his undergraduate thesis, but his pleasure and excitement at finding her work on DARE, triggered further research and ideas. This is the same student who sees the process as a journey (6.3.2). He developed

new work on the theme of *Translation* (interestingly he did not explore *Space + Place*, where Chandra's work in sited on DARE). Beginning by viewing a number of Indian films, this student photographed their subtitles.

> Student 3 (2005): Then what I did was I actually visited Southall. I took photographs of people there and I just started talking to people in the area, in the shops and things. I used their everyday life and made it quite dramatic, for example by using different subtitles, things they wouldn't necessarily say… It just goes to show how you can translate something through changing the context and how the media works in dramatising the everyday.

As was illustrated in the previous section some students felt the range of work on DARE, held powerful lessons for classroom practice, while several thought that the range of ways their fellow students responded to it was also significant.

> Student J (2001): I think that as we're learning to be teachers, this was good for us to learn, to see that everybody else has seen the project from a different point of view, and we could take into the classroom and teach children to see things from a different angle and show them that people do think differently and it's all right to be an individual.

> Student a (2003): It just opens up so many different ways and approaches that the children can visualise a simple word, rather than just drawing it or… going 'this is the word, this is what it means', you can think about all sorts of approaches and meanings for that word… specifically it made us all think that fantastic drawing isn't all–important'. It is important but individual approaches and interpretations are just as valuable to educate children to be free in their expression… and DARE shows how other artists have used this same approach, they don't have to have a perfect photographic picture of something to make it 'good quality', to visualise something can be expressed in any way.

> Tutor: how did the work of your group exemplify that?

> Student c (2003): That was amazing, I think 3 of us in our group had chosen the same theme, but the outcomes were so different …you'd have no idea that we'd chosen the same theme.

Those who found the task stimulating automatically found ways of extending it further. Those who were overwhelmed or frustrated by DARE's structure, or the open brief were inevitably less motivated.

6.3.4 Key Problems identified

Several students revealed how their previous experience on the Internet, meant their expectations of 'how Web sites work' were confounded by DARE and many of them obviously found this frustrating.

> Student l (2003): I initially had lots of problems. I don't really know much about technology and computers but I gave it a go and found that I had to print it off. I printed off the glossary, but I didn't use it in the end. I actually read the captions in *Translation* and a few bits of text that were there. I didn't have time to actually make something specifically, I chose to use a piece of my work and see if I could relate it to something on the site … I read a piece of text and thought, 'ooh I've got something for that.' … I found an artist that I could relate to. They were using African textiles in Western contexts – Yinka (Shonibare) – and I could identify and really understand that.

> Student m (2003): I think everyone found it was good when they could relate to something in the site…

> Student l (2003): … but it took three times for me logging on and I was really getting frustrated, but I thought there must be something there for me… I haven't used computers much but when I've used other Web site they're more or less self explanatory but… It takes time…I was on a really slow connection and I had to print bits of it off.

> Student m (2003): It's not one of those Web sites you can just whiz through.

The issue of time constraints in relation to the amount of information on DARE, and how it has been structured, was clearly an inhibiting factor for some of the students – a point which the tutor stressed might get even worse once they are working full time in schools. Student G (2001), who didn't know where to start said that, following my contextual talk on the DARE site, she would have approached her project differently, but she still seemed to feel a bit overwhelmed by all the information

> Student G (2001): I think I would probably have looked at the Web site in more depth, if I had've realised how to get about it properly…there was just too much there.

In another group, several students contextualised the issue of how much information DARE contains.

> Student k (2003): The majority of us used it as a trigger, it's quite difficult because it's such a large site. So it was looking at key words and taking ideas from there…
>
> Student t (2003): I'm from a graphics background and I was just looking for a key word. I was bogged down with certain questions and I really scaled it down towards one point which I wanted to look at, so for you to just to take one word, I think that's as much as you need, you shouldn't feel pressured to take it all in…
>
> Student n (2003): But I think the amount of information that's on the Web site, If you had that in book form you would have had I don't know how many books…, Imagine if you'd had that information from a library you could be there for weeks!…. So I think it was all condensed quite nicely really.

Expectations of the Web in general and the 'Digital Art Education Resource' in particular, played a big part in how students tackled the project. In the course of the discussions, their different reactions to the site revealed as much about their learning preferences and their preconceptions as they did about how well or badly DARE functions as a resource.

Student s (2003): I visited the site and decided I'm not a fan of it. I did what a lot of people did and I visited the site and printed out what was in the section (*Translation*) I was interested in. I was trying to apply it to a school. Classroom situation. I was thinking about how children, when they don't want people to know what they're saying, they use a hidden coded language and I ended up with a kind of diary for a week of my life and abbreviated everything into unintelligible script. My background is in publishing… First of all DARE confused me. I've worked with lots of different Web sites and this one just seemed to go on and on and on and on… I always think with Web sites there has to be a form to it, there has to be a beginning, middle and end to it and I couldn't see an end to it so where do you draw an ending to the site, where do you say this is where I'm going to or from?

Student r (2003): But you see that's what I think is a good thing about the site, because you haven't got an end to it and generally things don't have an end of them, so taking your starting point and your end point for your project is more up to you… and that approach to the Web site is a kind of rhizome, things going off in different directions…

Student t (2003): I think the shape of the Web site was probably affected by how you should look at your work, so, the fact that you've got to jump around and look at all these different places is the way you should probably look at your work… you haven't been spoon fed the material.

Student u (2003): I think that if you have a Web site where there's a beginning, middle and end, you 'd probably go on it once but you wouldn't go on it again, if you've seen everything that's on there and you come to an end I wouldn't go on it again… whereas with this one I went on it quite a few times, about 4 times I think and did pick up something different every time, so for me personally I liked that.

One or two students commented on the potentially participatory nature of the site and how this could be improved. In particular one of the 2005 group suggested that he would have liked the opportunity to comment on and reads others' comments on what he found on the various artists (and schools) pages. This is exactly how I have

had envisaged the site working through the *Art Club* and Teachers' forum facilities, but (as I explained in chapter 5) this has proved too difficult to administrate.

6.4 Emerging conclusions.

Reviewing and editing all the evaluative material, from which the quotations in this chapter are a small selection, was a wide–ranging and time–consuming task. Despite some logistical problems and certain questions in my own mind about the quality, consistency and rigour of my qualitative research techniques a number of consistent themes have emerged, which I will address in detail in the following chapter. One way of considering these is to broadly sub–group them as follows:

- Maker's intentions: to what extent the design and aims for DARE have been realised

- User's experiences: how different users have encountered and engaged with the form and content of DARE, in relation to their expectations.

- User's context: the constraints imposed or freedoms afforded by the particular contexts of the different users.

Taking these groupings, and examining them against the evaluative criteria, in the concluding chapter I will identify what I see as the key issues and questions raised by this study into the development and use of DARE and the extent to which these support or critique the Internet as an appropriate medium for learning through and about contemporary visual art.

(13,527)

Chapter 7. Conclusions

7.0 Summary of the study

In this chapter I will address the implications – for practice and policy – of the outcomes from this research, its successes, failures and constraints. I will also suggest what further research is needed in order to fully explore the creative uses of the Internet in teaching through and about contemporary visual art.

This research study has examined uses of contemporary art practice and ICT in Art and Design education, focussing particularly on the Internet as a space for research, communication, production and critique. Taking a lead from artists' uses of the Internet, rather than emulating instructional e–learning models, I have designed, constructed and trialled an online art resource (DARE) with teachers, pupils and initial teacher education (PGCE) students. While DARE is the *Digital* Resource for Art Education and does have a section featuring net–based art works, as well as a number of artists who use digital media, it also features artists whose practices range from performance to painting, photography, textiles, conceptual art and installation. DARE's intention is not simply to promote creative digital art practice – although that is a partial aim – but rather to provoke critical engagement with and creative responses to contemporary art practice, through a digital resource. As such, it addresses the need for a critical digital literacy through design and application. In the previous chapter, I examined the use of DARE as reflected on by the various user groups, through small semi–structured interviews and large group seminars, in the context of the three evaluative questions:

- does DARE encourage critical and creative activity (if so what sort)?
- does DARE extend available resources (if so how)?
- does DARE facilitate critical engagement with international contemporary art and wider cultural issues?

These questions were devised to focus on DARE as a case study, in order to support the overall research question: to what extent is the Internet an appropriate medium for learning through and about contemporary visual art?

The main findings emerging from this evaluation are that for a significant percentage of users DARE offers access to a host of new artists and issues which have acted as a trigger for creative ideas and critical engagements. The majority of respondents encountered a diverse collection of artists they had never come across

before. Where users were familiar with these artists (as has been the case with an increasing number of the PGCE students) they were clearly surprised and excited to find these and other artists on this Web site. In many cases – among the older school students, PGCE students, the teachers – engaging with artists and ideas on the site, or following links through the site, led to the development and support of creative work, including curriculum development, which was both innovative and a rewarding process for the maker. A small number of younger users (KS3/4) were also able to develop ideas and make creative and conceptual connections in the work they made after accessing DARE, but this understanding was dependent on the support of additional, non–digital resources and, in some cases, considerable teacher mediation. While issues of technology resourcing, teacher–pupil ratio and access to language and concepts were all problems for the year 10 group at Chantry School, some of the students were clearly engaging with ideas and artists' work and the teacher was trying hard to bring a more diverse range of contemporary resources into the classroom. However, for many of these younger users, as with the year 9 pupils at Windmill, access to the language and concepts which DARE uses was limited or impossible.

There are indications that the particular design and ethos of DARE have played an important part in the nature of users' engagements and that, even when users have only visited the site once, the themes, ideas and artists it featured have raised questions and provided a useful starting point for further creative development. In some cases, PGCE users have reacted negatively to DARE's structure or design but, as transcripts revealed, such negativity has not necessarily meant a total creative or critical disengagement. A number of the PGCE users, and both the teachers at Windmill School, felt very free to play and experiment in response to the work and ideas they found on DARE, clearly motivated by what they perceived as an 'openness' in the site. Others, however, interpreted DARE's open structure as a lack of direction or clarity and were confused about what they should do or where they should go. PGCE students who responded like this tended to take a small element (an image or word) as their starting point, but some of this group clearly gained confidence from seeing how other students had responded to the project in the discussion session, and indicated they would return to use it again. The A–level students all used DARE as a starting point, an initial trigger, drawing on other sources and resources in the development of their work, but for some their engagement went further. For one student, DARE's questions stimulated a self–reflective process of creative enquiry, for two others DARE's language helped them articulate feelings and meanings in their own work and for several more, the

structures in DARE, linking ideas to artists, leading out to further links, started them on a self–directed process of research which took in other Websites, local libraries and gallery visits. A related response, at Chantry School, also incited a desire for further resources, examples and a gallery visit but in the context of teaching a year 10 group (as opposed to the more autonomous year 12 students), this desire proved much less easy to facilitate (see 7.1 for more on this).

For the majority of users, a notional 'permission to play' seems to be a key factor in whether they were able to actively and creatively engage with the form and content of the site – which is designed to support a more experimental, questioning and open–ended approach to making and learning: for the teachers at Windmill it was taking part in the development of a research project which created these conditions; for the A–level students it was the shift from the directed model of working at GCSE to the more self–directed approach at KS5; and for the PGCE students, who were all given a very open brief initially, it related to their own confidence in this approach to making and learning. I would also suggest this last group (who are in fact 3 different groups over 5 academic years) have seemed to bring more in the way of assumptions or expectations of what the DARE Web site would or should be like, than the other users (both teachers and students) who have trialled the resource. This preconception in some cases proved inhibiting where students felt the Web site should look and function in a prescribed way.

In summary, perhaps unsurprisingly, there is no one universal outcome in response to DARE. The research reveals a number of significant qualifying conditions which will not only affect the use of this particular resource, but would also have bearing on how the Internet as a whole can most effectively be used in the context of Art and Design education.

7.1 Limitations and problems within the research

This study was conducted in the context of a commissioned resource development project, with external funding to support the maker/researcher over the three–year development period. While the research could not have happened without such financial support, the pressure to publicise, market and advocate for the use of DARE was an additional consideration, which needed to be kept distinct from the evaluation of its actual use. The scale of work involved in the design and construction project meant that the research trials with user groups were necessarily limited to two (London) schools and the students from the PGCE course at the researcher's university. A single researcher could only have conducted and

monitored larger scale user trials by sacrificing the more in–depth qualitative feedback methods of the interview, observation and discussion groups, for surveys or questionnaires. Moreover, the practice–based element of the research and development has worked symbiotically with the ongoing user feedback and observation and the contextual literature and media review.

The majority of the Web development and trialling of DARE took place in 2000/2001, although feedback from the PGCE students continued to be gathered up to 2005. While practice–based work or applied research using ICT runs the risk of being ephemeral, with technologies developing so rapidly, I believe the present research avoids such a problem, due to its critical aims. Methods of production and interaction may change somewhat but the intention behind them – to provoke creative and critical engagement – is fundamentally pedagogical and not dependent on any particular technology, even while certain uses of these technologies may enhance (or inhibit) such an approach. Moreover, despite technological developments, more recent national research indicates that ICT in school–based Art and Design practice has not changed significantly since the main study period, as I will go on to discuss in the following sections.

Technical problems had an impact on the research in two ways: firstly, the school–based user groups were working in contexts where online access was severely restricted and, while teachers are used to working with these constraints, at Chantry school in particular, these issues affected the ways DARE was used. As in so many schools, this group had to use a computer suite situated well away from other art resources and not designed primarily for the needs of Art and Design. Where schools have central computer suites for all subjects, pupils may not associate them with art practice, even in relation to research, as demonstrated by the young people at Chantry. Without dedicated online computers, equipped with scanners, printers and relevant art, design and media software, based within the department, it is very difficult to integrate practice and theory in the subject. Working within the school timetable, teachers wishing to illustrate a technique by referring to an artist's work or students who wish to contextualise their own practice, within the wider world of art and ideas, cannot effectively utilise the vast resources of the Internet, if they have to leave the art room and cross the school to do so (Ofsted 2002; Creating Spaces 2003; Loveless 2003; Ofsted 2004)

However, it should be noted that there was one clearly positive outcome from the situation at Chantry School. The teacher's use of DARE actually resulted in a

critical reflection on the department's teaching and resourcing, acting as a catalyst for changing both. She spoke of dissatisfaction with the way the department's facilities and resources were not able to support and extend the work with DARE. In particular, she felt that a wider selection of images would have given extra stimulus and opened up difficult concepts for some of her students. This could, perhaps, be a criticism of, or at least recognition of the limitations of DARE. But FW took it as an opportunity to create a richer and more contemporary resource bank for the pupils.

> FW: As a result of that dissatisfaction I have built into all my bids for extra funding a requirement that we spend money on non–European and more conceptual artists resources so we have been able to access funding through budgets like 'Improving Exam Results' and 'Black History Month' to be in a stronger position to go back next year and to run a project that uses the DARE resource properly, which we can support properly when students are away from the Internet. (audiotape interview by Buchanan 07.02)

The second technical problem relates to the software and server support given by the hosting institutions during the development of DARE, which meant I was not able to test effectively the use of discussion spaces on the site and how these might support a critical interaction for students and teachers with artists' work and ideas, as well as between each other (see 5.5). Software and server constraints, coupled with the pressure on teacher and pupil time has also meant the opportunities for user contribution to the schools pages on DARE have been severely limited. In the event such opportunities were only possible when I was in direct and sustained contact with users and beyond that, an effective structure for user contribution was not created within the site's development period. User participation in the form of creative contributions and discussions had been two intended features of the site and a focus for the research but the practical issues remain unresolved.

Perhaps the key problem encountered by users of DARE relates to the range of audiences it was aimed at. The supporting institutions, Middlesex, inIVA and the Arts Council, were keen that DARE should provide access to resources and, in so doing, affect practice for teachers – both qualified and in training – and their students in schools. In fact, in the very early planning discussions (1998), the audience was to include primary age users as well as secondary students, but my initial research highlighted the problems with such an approach and the scope was subsequently narrowed[1]. Although conceptual access to ideas was a key consideration from the start, it was really only in the trialling phase that the issue of linguistic access for younger or EAL users became apparent. At Windmill, this was

[1] I later went on to research, develop and produce the DARE Primary CD–ROM (Sinker, 2003), made with and for children in KS 1 and 2.

very much perceived as a literacy issue for children prior to KS4, where even the most able Year 9 students had trouble with vocabulary and concepts. Since they were never asked to access the site online themselves, instead working with print–outs, it is unclear how they would have been able to navigate the thematic structure of DARE. The teacher's comments at Chantry suggest that the SEN and EAL users, who made up about 2/3 of this Year 10 group, needed support with both language and navigational access. Many schools, particularly in urban areas, have a high percentage of students with English as an additional language and language issues such as dyslexia are a consideration for all schools. But it appears from my research that this issue may about more than literacy levels. In the area of post–16 education, particularly AS and A2 level, the recent QCA report concludes that "There is some concern that pupils do not demonstrate sufficient experience of critical and contextual studies throughout the key stages, which leaves them ill–prepared for the levels of engagement required in the 16–19 qualifications." (QCA 2005: 17). As other research illustrates, critical and contextual studies are not generally prioritised in any form at KS3 with practical work taking precedence (Downing and Watson 2004). So linguistic access issues are further complicated by the lack of opportunity for increasing pupils' confidence in talking and reflecting on artists' practice or their own work, in either whole class or self–directed situations, before KS5. And, as I go on to consider in the next section, the lack of critical engagement with online resources does nothing to address this problem.

So, should DARE have been differentiated for a range of ages and ability levels? Should it now identify itself as a resource aimed at KS5 and teachers/student teachers only? The scope of DARE's project development and research would have made this kind of differentiation impossible within the available time and resources. However, another solution, which was suggested by several of the users, would be to create a version of the DARE texts and responses to this material, written by young people for young people and integrated within the site. This proposition fits in well with the original aims for DARE to include user contributions, thus embedding both critical and participatory features and would also address the wider issue of integrating critical and contextual studies with Art and Design practice. Attempts were made to include more young people's work into the site and there is clearly more work to be done to overcome practical and technical constraints, but this could potentially offer a solution to make DARE fully accessible to a wider audience of users, below KS5.

7.2 Implications of the research findings for school practice, creative resource development and the value of critical digital literacy

At the time of this study's completion (2006), while there has been a considerable increase in the amount of available 'exemplar' materials, guidance (particularly online) and training addressing how to use ICT in Art and Design, the actual use of digital technology in Art and Design teaching and learning is still – according to both statutory reports and independent national studies – frequently disappointing, despite some excellent exceptions (Creating Spaces 2003; Ofsted 2004; QCA 2005). The QCA's 2004/5 report finds that "A greater understanding is needed of the value of working with new technologies for both teaching and learning." (QCA 2005: 4). In their key findings the report states that:

> Work using new technologies needs to become more valued in schools. This needs to reflect the extensive use of new technologies in the world of art and design and the dominant role they have in the lives of many young learners. (QCA 2005: 6).

In relation to this last point, another recent report, *UK Children Go Online* (the result of a three year national study), concludes that while the Web is now an important part the communication and information experiences in children's lives, this is not an unproblematic relationship.

> Young people encounter difficulties with searching the Web, with the critical evaluation of Website content and with a range of other online skills, and these in turn appear due to the patchy educational support they have received in Internet literacy teaching. (Livingstone and Bober 2005: 413).

Among the conclusions of a Becta–funded case study considering the relationship between ICT and subject literacy, was the feeling that while there is reasonable competence among teachers and pupils in the "operational dimension of technological literacy", there is "little evidence of teachers developing the critical dimension of literacy." (Goodwyn and Findlay 2003: 27)

What my research has shown, which is backed up by the points made by others above, is the need for pupils and teachers to engage critically with technologies, recognising how ideas and images are represented and transmitted through these media, in debate and discussion, and through practice: what could be termed 'critical digital literacy'. The practical lack of resources and training, which has inhibited creative uses of digital technologies in many schools, has been recognised (Creating Spaces 2003; QCA 2005) and is gradually being addressed, particularly at those schools who have been granted specialist status, but I would argue that the way ICT is spoken of and conceptualised as primarily a set of competences,

skills and tools, remains a significant problem right across the curriculum, inflecting the way it is taught and the way resourcing and training are implemented. By focussing on what, where and how to use ICTs, this instrumental view does nothing to address the fundamental questions of why we should use, or sometimes refuse them, and always critique them.

If teachers are concerned that pupils are merely copying and pasting information from the Internet without reading, engaging or processing it – and research says they are – (see Downing and Watson 2004; Ofsted 2004; QCA 2005), why not spend time addressing this issue through discussion which then links to practice? This is a literacy issue which relates to speaking, listening and critical thinking skills as much as subject knowledge and could help in addressing the language problems identified in the previous section. In the focus group discussion one expert noted:

> I liked the phrase "thinking aloud", actually in relation to critical study – I think it was a phrase that SQ (teacher at Windmill) used… this was a great opportunity to develop the role of talk and the development of language as part of critical studies and I think that's really very, very important.

The DARE case study has shown that where school students were able to talk with their teacher or each other about the work they encountered on the DARE Web site, these discussions propelled both their understanding and their interest, encouraging them to develop ideas or undertake further research. Their research and development process appears to have integrated the critical with the practical, a key aspect of literacy. The A–level students were looking for ideas and influences to inform and develop their practical work, but were simultaneously considering the way other artists were working. They were investigating the form, the ideas and the context of artists' work, and were also undertaking and refining their own process of research through Web searches, library and gallery visits (6.2.1–3). By the end of the year they were aware of their own creative development and even realised that the process of making work in the school and curricular context was tied up with its own set of constraints and agendas. Even when the talk was not directly about the artists on the Web site, but about processes offered by working with new technology, both pupils and teachers were inspired to try new ways of working (6.2.1). Linking the opportunities for talking about artists' work in relation to new technologies with practical work, employing these same technologies, gives students a real understanding of the both the methods and the meanings of production and publication with digital media. The young people using DARE were stimulated by seeing other young people's work alongside the featured artists' work

and motivated by the idea of publishing their own work in the same space. What this unique study reveals is the learning value of linking critical enquiry with talking and making, both about and through the medium in question. In other words, if a Web site can effectively accommodate young people's critical and curatorial ideas, alongside their creative practice, linked to other artists' works, they could achieve a meaningful insight into the production of their own work, revealing how it fits in a wider cultural context – just as those students at Windmill became aware of this through their participation in the Lux Gallery event and on the DARE Web site. The evidence from this study suggests that critical digital literacy is achieved by researching, thinking, talking and making/writing through and about digital media – as an integrated process – as, crucially, digital technology and activity must be seen in relation to other cultural and social practices. In this sense, returning to the research question, the Internet is a highly appropriate medium for learning through and about contemporary visual art.

While a number of the PGCE students, and the practising art teachers, were intrinsically motivated to explore their work in direct response to DARE, for many it was in their group discussions that ideas really opened up. Here they began to realise not only the possibilities for interpreting what they encountered on DARE through a range of diverse processes to reach very different outcomes, but also that the mode and style of presentation on the Web can affect how and why people engage with it. People's assumptions about what makes a good Web site were challenged by the range of conflicting opinions voiced within their peer group (6.3.4), as well as by the wealth and complexity of site itself. Some students suggested that my contribution (as maker/researcher), being able to explain the motivation or ideas behind design and content decisions, could have had an effect on how DARE users engaged with the resource following the evaluative sessions. My status as maker/researcher could also, conceivably, have constrained or coloured users' responses. However, the evaluative sessions themselves – offering a space for reflection and critique – have acted as triggers for further critical engagement with DARE, regardless of my presence, as was evidenced by the recorded range of PGCE student responses in all the sessions, both when I attended (2003) and when I did not and by the responses of FW at Chantry School, which were independently evaluated. Moreover, as I have already argued, my involvement as maker/researcher gives the site a unique form and intention.

Working with the two teachers and the Year 12 students at Windmill enabled me to improve and adapt DARE in response to user feedback and to monitor quite closely

how the site could be used in a number of classroom and independent study situations. While I did not make suggestions to either the teachers or the students about how they should use DARE, my involvement in monitoring and supporting their use did seem to act as encouragement. In both our conversations and the interviews the participants were able to reflect on the development of their work and the role DARE played in this process, as is clear from some of their responses (6.2). I was not working in a traditional artist–in–residence mode but was, perhaps, operating similarly to the artist–in–research model for inIVA's Artist in Research programme (Raphael and Clarke 1999), which itself drew on the history of artists working in social contexts, initiated by the Artist Placement Group (APG)[2].

At Chantry School, where I did not work with the teacher at all, FW had more experience working with digital technologies than either of the Windmill teachers, but less school teaching experience and less external support or encouragement in how she was using DARE. In fact, the evaluator did make certain suggestions, based on her own experience of working with DARE, some of which were adopted by FW. But the whole process raises questions about how effective new resources (digital or otherwise) can be, used in isolation, without peer support and discussion, training, skill–sharing or the involvement of a creative practitioner. Such questions have implications for practice and for policy.

As I have stated in previous chapters (3 and 5), DARE was not designed to model other online Art and Design resources (at the time of its conception there were almost none to draw upon, in any case). It was not designed using online instruction principles, but was developed through a review of non–digital art education resources and a range of artists' site specific Web works, known as net art, which were exploring the possibilities for interaction, communication, exhibition and exchange, including devices such as interruption and malfunction, as a way to arrest the audience's attention away from the seductions of seamless screen design. If DARE raises questions they are as much about design and intention as they are about content because foregrounding a consideration of the medium is an essential part of any concept of digital literacy. Admittedly this may be a risky strategy since – in the commercial field – research indicates users are conservative in their expectations of Web design and if their expectations are not met on encountering a Web site, they are likely to move elsewhere (Nielsen 1998). But users' responses may well differ depending on their intentions for browsing,

[2] The Artist Placement Group was established by artists John Latham and Barbara Steveni in 1966, See the following Web site for more information [http://www.tate.org.uk/learning/artistsinfocus/apg/default.htm]

searching, purchasing or surfing. As an artist–educator my first instinct was to provoke questions rather than provide answers and my creative research and development for DARE was propelled by the need to find design and content solutions reflecting and manifesting that principle, even if the result was ambiguous. For designers of art–based Web sites (or other digital media productions), whose aim is at least in part educational, I would argue that ambiguity is not necessarily counter–productive where students are given the opportunity to discuss the content and context of what they encounter – an opportunity which should be afforded them when encountering any form of cultural production. As has been argued by others (Haas 1996; Blake and Standish 2000), the Internet is not a neutral delivery medium for information, but a complex system of software and design conventions, constructing knowledge hierarchies that can reaffirm or undermine existing cultural, political and economic relationships in society. It is certainly the job of education to recognise and examine this complexity and I would argue that educational resource designers could learn from the way artists have used the media in self–reflexive mode, to illuminate beyond the screen. In developing DARE I was mindful of Mitchell's advice:

> Self-questioning on the part of teachers, invested as they inevitably are with institutional and disciplinary power, can only be of benefit if it enhances the questioning potential of students who have so much to learn and so much power to gain. (1992: 39)

In the design and construction I drew on my own reflective practice methodology, considering and testing the way form and content could address the intention to provide access (to artists and concepts) and provoke engagement (through creative and critical practices). These practical insights were invaluable and could not have been achieved simply by reviewing theoretical texts or conducting surveys. Indeed, they rely on the evolving critical digital literacy – the researching, interacting, talking, making – process of the maker/researcher.

Early Web design adopted conventions from previous technologies, especially print media until newer Web–screen conventions – such as splash pages, header/sidebar menus, sitemaps etc. – evolved. My early Web research followed by my own design experiments, both in sketch–book and on–screen form, showed me how flexible these media are, within and beyond such conventions. Bearing in mind the constraints of schools' ICT systems, the use of dynamic graphics and rich media on DARE was initially limited to animated GIFs and rollovers because of the need for additional plug–ins and fast Internet connections to support more complex dynamic media elements such as Shockwave or later Flash. Even things as simple

as understanding how text and colours were rendered differently in Macintosh or Windows environments and within the various versions of browsers, gave me a greater insight into the user's experience and influenced decisions about site design and content. Making changes to design in response to user–feedback, allowed me to notice changes in the reactions and practice of users, in real life contexts – which I could then compare with other research.

> At the same time, my understanding of critical pedagogy – realising that what is taught is embedded in the model of teaching – informed the desire to adopt an open, questioning approach to presenting the material, placing very different artists in close proximity, using multiple voices in the form of quotations from artists, writers and critics and phrasing significant sections of the text in question form.

Applying my experience as an artist–educator, as well as an Internet user, building the content into a critical learning framework, has given the resource a unique visual and architectural identity. DARE's identity has in turn affected how many users engage with the site. Their responses to me, and to each other, reflect such an effect and provide evidence for the value of critical digital literacy.

In a sense I experienced what young people learn when they get the opportunity to create and publish work using this medium, namely the design, exhibition, communication and interpretation of works and ideas to, with and by an audience, including insights into the nature of those interactions. As a maker, educator and researcher these are valuable learning processes and young people are not getting enough opportunity to experience them. So, it follows that one of the most pressing implications for this research is to ensure that all young people are given opportunity to be producers of this medium, not simply to publish their opinions, but to construct and reflect on their ideas in a public space, which will certainly enable them to be a more critical audience.

7.3 Implications for policy

The most recent statutory guidance for "embedding" ICT at secondary level (KS3) does acknowledge that ICT capability is about more than acquiring technical skills. However, there is still scant reference to the social, cultural and political uses of and implications for using ICT or digital media, which must surely be part of a critical literacy. Nor is there any critical analysis of the recommended or widely promoted tools. On the second to last page, in the appendices, under the teaching objectives for Year 9, one mention is made which draws attention to the "advantages, dangers and moral issues in using ICT to manipulate and present information …(issues of

ownership, quality control, exclusion, impact on particular communities)" but otherwise such considerations are absent (DfES 2004: 37).

Referring to the overall guidelines for the place of ICT in the curriculum, this document accentuates four (of nine) key concepts as central to ICT in the art and design curriculum at KS3 (DfES 2004):

- Analysing and automating processes
- Models and modelling
- Fitness for purpose
- Refining and presenting information

An examination of one of the examples given for understanding these concepts reveals a worrying tendency to decontextualise the artists' work. While it may not be representative of the overall approach to critical studies, nevertheless we find a fundamental distortion of the intentions and context of a twentieth century artist's work. In a Yr 7 project exploring Decay and Dereliction, the Dada artist Kurt Schwitters is used as the basis for an investigation of collage forms and conventions, before pupils create a digital collage of their own using "layers/transparency, colour adjustments and filters to create a picturesque view of decay, ruination and dereliction." (ibid: 18). Schwitters' work, like many of the Dadaists, was created in angry response to the political and economic excesses in Germany prior to the First World War. His poems and collages were intended to challenge complacency, offend taste and question the conventions of the art academy and the art market, by incorporating nonsense language and found (waste) materials into his work. The polished and "picturesque" digital images produced by these year 7 students are a world away from Schwitters' work (in form and intention) but nowhere is this remarked upon nor do the differences appear to have been discussed with the pupils. The irony in this case is that the ICT concept this project illustrates is "Fitness for purpose".

The point here is that the collaging capability of digital imaging software is being considered purely on visual or material terms, not in terms of artistic intention, where collage has been used (both historically, as in the case of the John Heartfield or the Dadaists and more recently with digital techniques employed by artists like Keith Piper and Roshini Kempadoo) as a political statement as much as an aesthetic choice. In these instances different visual sources are juxtaposed,

throwing image conventions and by extension, the meanings they convey, into question.

Addressing this point Meecham notes “the artworks that explore the theme of identity and the fractured, layered self are legion.” But she cautions against the technological determinism which seems to drive so much educational thinking, where ICT is employed. “The piecemeal absorption of these enquiries, where technology is used to merely morph or distort the physical appearance of the pupil or student is testament to a surface questioning.” (Meecham, 1999). This issue has not been addressed in any of the subsequent statutory guidance for the subject where, as I have noted above, the emphasis is still largely on the manipulation and application of software and hardware as tools. As I argued in the previous section, the changes needed are a fundamental shift in how ICT education is conceptualised, right across the curriculum, in practice and at a policy level. Within the art curriculum specifically, attention must be paid to the way artists’ and designers’ practices have changed, as have the audience’s engagements, with and through the applications of digital technologies. As Livingstone notes:

> While education and learning represent the ‘approved’ uses of the Internet – the reason why parents and governments invest in domestic Internet access – children and young people themselves are far more excited by the Internet as a communication medium. Perhaps also, although the former are strongly prioritised by schools, by and large restricting communication to out–of–school locations (the home, friends’ houses, Internet cafés), it is through online communication that students explore, experiment and so gain a wider range of Internet–based skills, confidence and expertise that may carry over into the traditionally defined ‘educational’ uses. (Livingstone and Bober 2005: 414)

Unless a critical digital literacy is at the heart of the curriculum, schools (and their budgets) will continue to be driven by the commercial interests of Internet service providers, software developers and hardware producers, teachers will be unprepared for the demands of their students and those students will be ill–equipped to engage with and make informed decisions about the increasingly complex array of media which they encounter and use beyond school.[3]

7.4 Implications for further research

The least successful element in the implementation of DARE has been in the area of user contributions. As indicated, this was down to two key factors: technical

[3] The PELRS project (2004–7), based at the Centre for ICT, Pedagogy and Learning at Manchester Metropolitan University, and run by Professor Bridget Somekh and Dr Matthew Pearson, aims to develop innovative pedagogic strategies for teaching and learning with ICT ad KS2 &3, including making links between young people’s home and school uses of the technology.

limitations at both server and user ends and the time constraints within which teachers and students work in schools. Since DARE was published, a number of models for popular, user–friendly multi–authored interactive spaces have developed which might hold the potential for participation by a young online audience, including the Wiki and the Blog. The software used for the discussion forum (The Art Club) on DARE was only partially customisable, making an unpredictable environment for users (5.5). But what this experience also revealed to me was the 'Millennium Dome syndrome' of online forums: building the perfect structure does not mean it will be well used – or even used at all. Online communities are an area of specialist study, beyond the reach of this thesis, but there is work to be done which looks at how such spaces can be populated and used effectively by young people, in educational contexts, given that they are already comfortably communicating online in (virtual) social networks such as MSN and myspace.com. One key element to such research would be to consider how online discussions relate to those taking place in the classroom, or the art department. Developing an online 'voice' takes practice, whatever the subject and articulating ideas in relation to some of the difficult concepts encountered in contemporary art almost certainly requires confidence in written and verbal rhetorical skills, which must be nurtured. What is more, it is in the iterative dialogues – between teacher and student and between student and student – where the learning will occur, not simply in the ability to publish one's opinions.

Making creative visual contributions – which might also act as arguments or commentaries – calls for another set of skills and technical support. Trialling DARE I could see that there were creative, critical and motivational effects on young people publishing their work online, in the context of the larger online art resource, but there were considerable technical and logistical issues to overcome in making this process an easy one. This demands a more sustained study, to consider the nature and extent of such effects, particularly in relation to how students might integrate their creative and contextual work. Developments in software such a *iPhoto* (Apple Computer Inc. © 2002 – 2006) and *iWeb* (Apple Computer Inc. © 2006) have made online image publishing simpler, but within a pre–designed Apple template. Enabling students and teachers to create their own Web page designs for publishing their work online is an important part of the communication design and production process. But it has also been one of the factors inhibiting participation because of training, resourcing and time constraints, as the teachers at Windmill School ruefully noted (6.2.1) What's more, as I explained in chapter 2, there is a difference between Web publishing as online exhibition or portfolio and net art,

where artists use the Web as their exhibition space, subject, audience and creative medium. While a number of schools now host the former, it is research into the latter which will really offer an insight into the possibilities of learning through the Internet as a creative medium.

7.5 Final words…

When this study began (1999), there was very little information in any format, which either exemplified how to use ICT creatively, or gave a rationale for it. Moreover, those publications that did attempt to explore this emerging field (eg Kelly 1996; NCET 1998), often seem burdened by a surfeit of potential. In much of the literature, there is a latent longing for the transformative possibilities of digital media. But, as the readers will be aware, by the time of publication those possibilities have remained unrealised, except in a minority of schools. Perhaps DARE has also been caught in this trap, hoping for a transformation in practice while only achieving partial success on a small scale. But the changes needed at policy level cannot be achieved by one resource since, as I have argued, they require a fundamental shift in how ICT education is conceptualised, resourced and valued. What this case study has revealed is that, even allowing for technical constraints, the Internet is a place and a medium through which teachers and students can engage with contemporary art practice if they are made aware of the possibilities and feel they have the space – and perhaps the permission – to play. The research has also revealed that this process is most effective with time and support and perhaps where the teacher is already open to change, but there is evidence that discussion encourages critical engagement even in sceptical or less confident users. Kolb suggests that, “part of the answer to increasing the critical and evaluative component of online education has to involve slowing down the inhabitation of the Net to provide time for thought and evaluation” (Kolb 2000: 136). This calls not only for more time being allowed in schools (even recognising that time is possibly the most precious and scarce resource of all) for reflecting and critiquing online media, including through creative production, but also for a recognition that we all allocate our attention to a greater or lesser extent depending on our expectations of the media, and that in the case of the Internet, we should look again. As stated earlier (4.2) this study provides a unique portrait, not only of usage in context, but also of how the conceptualisation, development and design of Web-based media are crucially linked to the application and value of such usage. Building in ambiguity encourages questioning behaviour.

I have suggested (chapter 3) that orthodoxies in thinking about or presenting art have been inhibiting classroom practice and, by extension, learning. If the art curriculum is still primarily focussed on (individual) artists, craftspeople and designers – in conventional models – with no mention of curators or critics, nor artists/designers who work collaboratively or in more participatory ways with the audience, then schools and the curriculum are failing to engage with art in the late twentieth century (never mind the twenty first). Digital technologies can illuminate arguments in relation to notions of audience, mediation, participation and authenticity in art production and consumption, both through their practical application and through the study of their use by artists and other cultural practitioners but this is clearly not happening in the majority of classrooms. In order to experience the creative possibilities – the transformative potential – of digital media, students and teachers need to work with artists (and others) who are in the process of testing them out. This has happened with DARE. Here, we can begin to see school pupils considering notions of (artistic) intention, (audience) reception and the (different) interpretations of meaning in an artwork, depending on the context of production and reception. The A–level students were able to apply these considerations both to the work of artists they encountered within and beyond the DARE site and, crucially, to their own and each other's work. Similarly, the PGCE students discussed each other's varying responses to the design and content of the Web site, in the process revealing their expectations and assumptions about the medium and realising that they had different preferred approaches to learning. Given the opportunity, the teachers began to make changes and to take risks with their project planning and curriculum development, which was ultimately an exciting and motivating experience.

These responses and understandings emerged through an iterative, dialogic process of interacting, researching, making and discussion – the very process I have modelled as the maker/researcher of DARE – being the heart of the research method and the basis for critical digital literacy. It is the mixed methodology of practice–based research and educational research, where I am considering the educative and creative intentions of my practice (4.1), that has allowed me to construct DARE in this way, conveying the value of playing with ideas and media through my actions, my written research and through the site itself – which is precisely what provokes such a critical and creative response in users.

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