Locating Image Presentation Technology within Pedagogic Practice

Marie-Therese Gramstadt contextualises image presentation technology and methods within a pedagogic framework for the visual arts.

Introduction

This article presents data gathered through a University for the Creative Arts Learning and Teaching Research Grant (2009-2010); including a study of existing image presentation tools, both digital and non-digital; and analysis of data from four interviews and an online questionnaire. The aim of the research was to look afresh at available technology from the point of view of a lecturer in the visual arts, and to use the information gathered to look more critically at the available technology.

Research Methodology

I was inspired by a presentation given by Pauline Ridley entitled Teaching with images at the Visual Arts Data Service (VADS) Digital Imagery seminar [1]. Pauline described different methods employed in the teaching of art history, from the printed reproductions of artworks, to dual slide projection, and more recent Web 2.0 methods. My own experience as both learner and presenter is very much confined to Microsoft PowerPoint and postgraduate experience of art history slide lectures. However the experience of engaging with the community through VADS projects, such as PICTIVA (2000-2002) [2], the Digital Picture (2005) [3], and of working as a Slide Librarian and Image Library Project Manager at the National Gallery, London (2007-2008) has led me to the following research questions: is PowerPoint a suitable presentation technology for teaching with images; are there other presentation technologies available better suited to teaching with images; or are there better methods for using PowerPoint in teaching with images.

The research methods included a literature review, testing of available software, four one-hour recorded interviews, and an online questionnaire. The participants were hand-selected for the interviews: Jules Findley, Course Leader for Fashion Promotion and Imaging at the University for the Creative Arts, Epsom campus, was chosen because she had previously interacted with VADS through the JISC-funded Enhancing VADS project so the author was already aware of her innovative teaching practice; Rosie Gunn, Senior Lecturer in Digital Film and Screen Art at the University for the Creative Arts, Farnham Campus, was recommended by Learning and Teaching colleagues at the University; Carol Plazzotta, Myojin Curator of Italian Painting 1500-1600 at the National Gallery, London, was known to the author through previous work at the Gallery, when the limitations with using PowerPoint for images had been discussed [4]; and Pauline Ridley, Senior Lecturer at the University of Brighton, and Learning Area Coordinator for Visual Practices, part of the LearnHigher Centre for Excellence in Teaching and Learning (CELT), was known to the author through conversations held at the VADS Digital Imagery seminars. The interview participants were asked open questions with the objective of gathering qualitative data on their background, including their own experience as students, their use of presentation software, and their innovative teaching practice.

The questionnaire Locating innovative image presentation technology within existing visual pedagogic practice was an online survey targeted at academic and support staff in the UK Arts
Higher Education sector. There were 58 responses to the 150 individual targeted emails. The individuals and JISCMAIL lists targeted were chosen on the basis of their interest in the topic, for example the involvement in similar projects. There were no issues in editing the survey responses since the survey could not be submitted unless the respondent had completed every question, and the mandatory responses were pre-coded within the system. The respondents had the option to remain anonymous if preferred. The survey included some open discursive questions which were followed up, thereby gathering more qualitative data to supplement the quantitative data of the rest of the survey.

Non-digital Approaches to Teaching with Images

Pedagogy before Technology

Traditional methods of teaching with images are still relevant in today's digital environment, both in terms of reflecting on teaching practice putting 'pedagogy before technology' [5][6], and in providing a richer and more haptic learning experience for the students. In Beyond the Image Machine (2004) [7], a series of sensory explorations of the image through media experiences, Tomas writes:

'... touch can link domains of knowledge, practices, and technologies... This is especially true when one considers the body and its sensory apparatus in relation to technologies of transportation and communication.'

Jules Findley described the way that she was taught as a student; it was about process:

'how to do something with an outcome... printmaking, sewing... doing and making... looking at fabric and being able to touch and feel things...'

There is an apparent lack of haptic literacy with the so-called digital generation who have grown up with technology in the home, and with digital whiteboards from primary school upwards. There has been discussion on the way that students' experience of the digital does not necessarily mean they are confident users of digital technology within a Higher Education context, nor are they aware of issues such as visual plagiarism [8]. The Visual Practices Learn Higher Centre for Excellence in Teaching and Learning (CETL) at the University of Brighton was funded (2005-2010) to provide resources for staff and students of all disciplines, to aid them in 'the development of visual, spatial and tactile knowledge and skills' [9], dealing with issues such as visual literacy, visual plagiarism, and producing effective oral presentations [10]. Although these issues relate directly to arts education, increasingly these skills are being seen as relevant to all disciplines and highlighted in Web sites such as Presentation Zen [11] Garr Reynolds's blog on improving professional presentation design, and generally in business to improve communication through visual means to get the message across more effectively [12].

The Tactile Experience of Learning and Teaching

The interview participants were asked about their experience both of attending and giving slide lectures in order to try and understand the background to their current teaching practice. The set-up of a slide lecture theatre is more dramatic in that it requires complete darkness, the equipment is normally more pronounced in terms of noise and the drama of 'next slide'. Slides are physical objects that can be handled. Pauline Ridley described the physical process of putting together a slide lecture as a history of art tutor in the early 1980s:

'you would visit the Slide Library, gather all the images that you thought might be relevant for the lecture, put them on a light box, move them around, select and discard, until you had it down to about 70 images for a one hour lecture'

Pauline spoke about the value, for students then and now, of using printed images so the students could physically arrange them in compare-and-contrast exercises. She also discussed how she would currently approach teaching with images with PowerPoint:

'I would have a PowerPoint presentation with images and text which would be interspersed with practical activities... I wouldn't ... bombard them with 70 images in 60 minutes. I would be much more selective... and let the students do something with them rather than just engage passively with them:...'

Only one person out of the 58 respondents to the Locating innovative image presentation technology survey reported using a non-digital method of presentation. However the use of object-
based, or hands-on, teaching is known to be beneficial for students [13]. Professor Val Williams, Director of the University of the Arts London Photography and the Archive Research Centre based at the London College of Communication, uses PowerPoint for presentations; but for smaller groups, she increasingly uses objects such as books, catalogues and magazines, which she finds more flexible than PowerPoint [14]. At the UAL Photography and the Archive Research Centre (PARC) Summer Symposium in June, participants were asked not to use PowerPoint at all; Professor Williams commented that this was very successful partly due to the resulting variety of presentations, for example some UAL PhD students held up prints and talked about them.

**Linear Digital Presentation Tools**

**Digital Slide Tools**

Microsoft's PowerPoint, Apple's Keynote, and many other presentation programmes were developed as the digital equivalent of slides; the terminology remains in the way each screen is described as a 'slide'. This terminology also extends to many other online tools such as Slide [15], in Facebook and other social networking sites; and to SlideShow [16] and SlideShare [17], both used for depositing and sharing presentations via the Internet.

Slide lectures can be a positive experience due to the quality of teaching [18], but Jules Findley summed up the passive quality of slide teaching in her experience as a student:

'...that atmosphere of darkness, the projector going... and then suddenly you're asleep, you pick up every tenth word, every three hundredth word, and you're gone.'

This method of presenting has also transferred to PowerPoint, with the well-known phrase 'Death by PowerPoint' [19]; and lecturing, as opposed to presenting, as a teaching method has itself been discussed as a passive experience for the learner [20]. Techniques such as Pecha Kucha [21] can be used to avoid 'Death by PowerPoint', since the method is to show twenty images in twenty seconds, and therefore focuses on the visual impact of the presentation.

There have been attempts to replicate some of the functionality of slide lecturing digitally, for example the way that many image sites offer an online light box functionality to collect digital images in groups. VADS began to offer this facility through the PICTIVA Project [22]. There are also a number of programmes available through image subscription services such as ARTstor's Offline Image Viewer (OIV) [23], Madison Digital Image Database (MDID) viewer [24], and Bridgeman Education's slide show tool [25]. They offer functionality such as zooming and panning images, as well as, more easily than PowerPoint, fitting two, three or four images on the screen; the focus is on the image rather than all the additional features provided in PowerPoint. There are also many image management systems and image viewers that offer ways to view your collection of images, with or without captions, such as ACDSee Photo Manager [26], Picasa [27], Flickr [28], IIPImage [29], IrfanView [30], XnView [31], although these are primarily designed for photographers or the home market they can be adapted for use in education [32].

'PowerPoint corrupts absolutely'

Edward Tufte's 2003 *WIRED* magazine article *PowerPoint is evil* ('Power corrupts, PowerPoint corrupts absolutely') argued the case against PowerPoint due to its didactic nature, whilst the case for PowerPoint was argued by David Byrne, an artist making creative use of PowerPoint [33]. The issue is not the tool but the method; another possibility is to use PowerPoint to build up a series of layers on a single slide. Rosie Gunn spoke about using PowerPoint to display images, but also using many other approaches in her teaching including: presenting with Web sites, showing moving image files, using social bookmarking Web site delicious to build up information for students through their myUCA interface [34], teaching within software programmes, and demoing software executables on obsolete machinery.

One of the positive aspects of PowerPoint is in its ubiquity; the fact that it is compatible with so many systems including classroom software and hardware, screen-casting software, it can incorporate audio and moving images, and it can be used to create learning objects or even artworks. In the *Locating innovative image presentation technology* survey, 96.5% of respondents use PowerPoint, and 87.5 % of those, do so on a PC with Microsoft Windows operating system. However it was interesting that 32% of respondents also use PowerPoint on a Mac or other operating system. PowerPoint seems to be favoured due to its compatibility at lecture venues, so that even though that all four of the interview respondents also had Macs in addition to a PC, they favoured PowerPoint over Keynote for this reason. For example the Macs in the University for the
Creative Arts also have Microsoft Office installed as standard [35]. Respondents mostly found basic training in PowerPoint to be non-essential (66%), although 70% would find advanced training useful or even essential. Similarly, respondents were interested in 'compare-and-contrast' and 'pan-and-zoom' features to be made more easily available (82%), and were interested in being able to edit images from within PowerPoint (82%). At time of writing PowerPoint has improved its image editing features and so this request from respondents may in fact be an issue to do with training or upgrading to newer versions of PowerPoint. Although it is possible to use PowerPoint to compare or contrast images by adding multiple images to a slide, this can be clumsy and if the slide layouts provided are not suitable, may involve the creation of custom slide layouts [36]. It is also possible to use custom animation features to set up 'pan and zoom', however this is time-consuming and the results are not always impressive [37].

**PowerPoint Extensions and Developments**

The latest release of PowerPoint 2010 includes improvements to the visual interface more suited to flashy business presentations and creative school-children than educational usage. However from version 2007 onwards, PowerPoint's tabs feature (the ribbon) enables users to apply add-ons such as Fotolia [38], and Microsoft Office Labs' pptPlex [39]. Although pptPlex is not supported, it shows that PowerPoint does have a lot of potential to be developed further. If pptPlex were supported by PowerPoint, this would provide a less linear presentation style. Other tools which can currently be used as add-ons to PowerPoint include electronic voting systems or Clickers, which are known to increase student engagement and generate useful feedback [40].

Respondents to the survey commented on the benefits of having everything online or centrally located, and Windows Live Messenger's feature of linking all social networking accounts together with one central account [41], as well as the online access to software programs such as PowerPoint [42], does meet some of these criteria.

The interview participants were asked for feedback on their usage of PowerPoint. Rosie Gunn would like PowerPoint to allow direct links to executable files, to avoid having to switch between PowerPoint and the file on the desktop; use of multi-screens (we discussed this could be achieved with the use of whiteboards or other technology); and better support for moving image files, including more file formats and a more intuitive interface. Rosie, and respondents to the *Locating innovative image presentation technology* survey, agreed that PowerPoint is not ideally suited to presenting about Web resources; although it is possible to cross between PowerPoint and an Internet browser, or to use screenshots, the transition would be improved if the Web sites could be shown within the PowerPoint screen. This is not possible even in the online version of PowerPoint.

**Non-linear Digital Presentation Tools**

**Horses for Courses**

'Horses for courses' refers to a comment by Andrew Worth, Learning Design Advisor at the School of Services Management, Bournemouth University [43] regarding his pedagogic use of presentation technology:

'It is really starting to get down to horses for courses, who is the audience, what is the message, and will the tool get in the way of the message'

The lecture has been presented as having a limited role in bringing about learning; it is likely to become one component, amongst many, in a portfolio of teacher roles [44]. Andrew Worth uses PowerPoint for quick and short, or business presentations, which fits with Bligh's research into the method of lecturing as primarily suitable for only transmitting information [45]. Andrew also mentioned colleagues presenting using stand-alone video, podcasts, blogs, wikis, Flickr, Picasa, and Google Maps; this also fits with practice at the University for the Creative Arts and elsewhere.

**Mind-mapping Software**

Mind-mapping software, which supports the visual representation of concepts and ideas and the relationships between them, is gaining popularity as both a teaching tool and for artist practitioners. One example of mind-mapping software is MindManager [46]; this is compatible with Microsoft Office and enables links to be drawn between Web sites and additional documents within the programme.

Ron Sakaguchi, Associate Dean for Research and Innovation at Oregon Health & Science University, introduced mind-mapping to faculty teaching which received positive feedback from the
University, introduced mind-mapping to faculty teaching which received positive feedback from students [47]:

'Sakaguchi says. "Students commented that the maps were a powerful learning tool, and helpful in understanding and organizing the class material." Each lecture is summarized in a one-page view, and twice during each term, he consolidates the mind maps and creates a summary of the previous lectures.'

The students were also encouraged to develop their own mind maps. The Locating Image Presentation survey included several responses from the University for the Creative Arts with staff using Prezi [48]; this supports image, video and PDF files in a mind map format. In the survey one of the disadvantages mentioned is that Prezi was too time-consuming to learn to use properly, although another respondent liked the way the presentation only had to be updated in one place.

Classroom Software and Hardware

Classroom and Lecture Theatre Hardware

In the survey 70% of respondents, who regularly gave presentations, would like more training or support to use hardware such as audio recording equipment, smart boards, and interactive whiteboards. Jules Findley uses whiteboard technology in her current teaching practice. Jules introduced it into the department as most of her students have been brought up on interactive whiteboards since primary school, and also because it can be used like a 'living Photoshop'. Jules uses it to ensure the students have to be pro-active, for example asking them to hide or reveal layers, getting students to draw on it. It is also useful in a review or revision session. The students respond very positively to this method. Jules described that with PowerPoint:

'the students just go into PowerPoint mode, which actually turns them off learning. The students are passively listening to a PowerPoint presentation without really analysing or thinking through their learning. Our industry is vocational which includes tacit learning. Students learn more effectively with tangible outcomes, doing much more process. PowerPoint does not keep our students engaged.'

The University for the Creative Arts’ Careers Service have been trialling Wimba Classroom software. I had an opportunity to view a demo of the software in March and noted the important role that the hardware has to play in ensuring the best is made of classroom software in order to provide high-quality multimedia content [49]. The benefit of the integration with Blackboard is that students would be able to access content in one course-related area.

Penny Burden, Learning and Teaching Developer at the University for the Creative Arts, previously Head of Skills and Personal Development at the University of Surrey, was responsible for setting up SPLASH, the Student Personal Learning and Study Hub, which includes hardware such as: Symposium computers (now called SMART Podium interactive pen displays), that let you write on the screen and also project onto a screen behind you; and a wall covered in dry-erase technology like a giant whiteboard. A visit was made to the University of Surrey, which enabled the author to appreciate the layout of the SPLASH space, including how this has been structured to suit a variety of teaching approaches [50]. The hardware used by the University included a computer on an armature to enable the sharing of the physical computer between a group of students wishing to collaborate on one piece of work.

Another example of effective use of hardware is at the University of Sheffield’s Centre for Inquiry-based Learning in the Arts and Social Sciences (CILASS), where they use huddleboards (lightweight whiteboards) to ‘record discussions, plan activities and map out knowledge’. The boards can then be placed underneath a CopyCam which will take a digital picture that can be saved and imported into a PowerPoint or used elsewhere.

Classroom Software and Distance or Blended Learning

The JISC Responding to Learners report [51] talks about the benefits of providing online learning materials for students:

'For some, such as learners with disabilities, digital materials that they can personalise are essential to their participation in learning.'

One approach is to use screen-casting software; another is to use a more integrated complete package such as Wimba Classroom [52]; Adobe Connect [53], which replaces Macromedia
Breeze, is an online Web conferencing tool based on the ubiquitous Flash Player, thereby avoiding the need to download the plugins usually associated with other tools such as GoToMeeting [54] or Elluminate [55]. However Adobe Connect, unlike Wimba Classroom, does not integrate fully into a Virtual Learning Environment (VLE).

There are also free tools available in order to create learning objects, such as the GLO Maker authoring tool (Generative Learning Object Maker) which focuses on the pedagogic design of the content. The user plans their structure based on one of the available pedagogic patterns or can use a freestyle mode, then each screen can be created and content added [56].

**Screen-casting Software**

One of the benefits of PowerPoint is that it can be used as a standalone learning object, or made available for reference purposes after a teaching session. However the addition of audio or additional resources through screen capture tools, or screen-casting software can enrich the user experience.

JISC Digital Media have published a guide to free online screen-casting tools including: Screen Toaster, Screencast-o-Matic, and Screenr [57]. Other freely available tools include: CamStudio [58], and Wink [59].

Kristy Widdicombe, Faculty Librarian for Fashion and Management at the University for the Creative Arts, Epsom Campus, used Adobe Presenter with Adobe Captivate last year to produce a learning and teaching object on research as part of a University-funded Learning and Teaching research grant [60]. One of the benefits with Adobe Presenter is the way it integrates into PowerPoint enabling the creation of learning objects seamlessly from a tab within PowerPoint.

Although the software can be intuitive to use, the creating of screen-casts and other multi-media learning objects does rely on new skill sets such as the use of hardware, synchronising the audio with the visual content, and providing features to improve accessibility such as transcripts.

**iPad as a Teaching and Presentation Tool**

Since the iPad was announced at an Apple press conference in January, there has been discussion on its use in education as both an artist's canvas and a presentation tool.

The iPad can be used with Bluetooth-enabled devices such as a keyboard, or connected via an iPad keyboard dock USB cable to a TV, stereo, or video projector [61]. However, at time of writing, it is not possible to project Web sites, and projecting content relies on downloading the right apps in order to view certain content [62]:

> 'The iPad will connect to a projector, but content is only visible in certain applications. At the moment, only: * Keynote * Photos * Videos (non-DRMed) * YouTube * Safari (html5 video only) will show on a projector.'

Paul Ohm, Associate Professor of Law at the University of Colorado Law School talks about using an iPad in his teaching for drawing diagrams and projecting mind-maps [63]:

> 'Using a tablet is far, far better than using a chalkboard [or whiteboard] --I get to face the class as I write, I don't end up with chalk dust all over my clothes, the students can see what I'm writing without straining--no ghost images from the prior class; no weird lighting days--and they get to keep a copy of my notes for later study.'

A recent event held at the Edinburgh College of Art included a discussion on the iPad as a new canvas for artists and its role within the teaching of art and design [64].

**Conclusion**

Teachers and lecturers at the University for the Creative Arts, and other institutions, are embracing new technology in all its forms with a view to improving the learning experience for students from all backgrounds and abilities.

Whilst there are many exciting developments in digital technology and e-learning, the benefits of physical objects and face-to-face sessions remain significant to the overall experience. By using advanced software and hardware technologies it is possible to be more inclusive and interactive whilst still putting pedagogy before technology. The role of learning technologists is central to the
new developments, although academics are also leading the way in innovation.

Recommendations from this research grant are: to continue putting pedagogy before technology; to try and find new ways of using PowerPoint as a presentation tool (especially because it is so well supported in institutions and elsewhere); and to keep informed of new technologies, such as the iPad, with a view to their potential use in education.

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