

Learning using multiple displays

Dr. Brett Bligh and Dr. Katharina Lorenz discuss innovative postgraduate teaching sessions in Classics using the Multi-Slides presentation system.

Currently, a lot of learning and teaching is conducted using PowerPoint or other similar presentation software. A single, static slide is projected onto one display screen and changed sequentially over time as the presentation moves forward.

Critics have argued that such a setup causes thoughts to become isolated onto slides, presentations to be linear, complex concepts to be reduced to simplistic bullet points, presenters to simply read out loud as though from a script, and authors to simplify their presentations to conform to existing slide templates. But students seem to like PowerPoint presentations because they allow for professional-looking visual materials to be presented and for printed handouts to be easily produced.

Recently, the Visual Learning Lab CETL (VLL) has begun to investigate the opportunities for learning offered by the Multi-Slides system. Using this system, PowerPoint presentations can be displayed across several screens simultaneously, with the presentation slides cascaded in order across the available presentation area. The VLL has previously investigated multiple displays using the Thunder system with courses from Built Environment, History and Education.

But the new Multi-Slides seems to offer different possibilities since it is based on PowerPoint and therefore familiar and easy to use. With the system, it is possible for presenters to construct visually impressive displays without new technical knowledge, while the audience can gain a sense of context and continuity from the increased persistence of slides. Viewers are also presented with juxtaposed information which can be used to inform common learning tasks such as comparing and contrasting theories or imagery.

Understanding the implications of multi-display systems for learning, for example from pedagogical, cognitive and spatial perspectives, will take considerable time and effort. But to begin this process, the VLL has studied the use of the system within a postgraduate Classics module, Ancient Art and Its Interpreters, during October and November 2009.

Within the module, students engage with key concepts in the study of Greek and Roman art and archaeology, such as stylistic analysis, visual narrative or urbanism. The materials used within the module were already very visually striking, and within these teaching sessions images of artwork and objects were embedded within a PowerPoint presentation and then displayed, six at a time, across two walls of a darkened room.

From a technological point of view, the system was able to display the material in a visually commanding manner, and allowed the transition between slides or sets of slides to occur quickly and



unobtrusively. Observers noted a “loosened” discussion structure, less granularly bounded than a traditional PowerPoint presentation but still linear. Though the tutor had chosen the evidence arrayed in front of them and sometimes provided exemplar analysis, students were free to comment on any piece of evidence which was currently displayed. Students constructed analytical arguments by referring to evidence, which they could access using simple eye and head movements rather than traversing backwards and forwards through the presentation file, and used gesturing to illustrate to others the ways in which their arguments referred to the imagery within the room.

Meanwhile, the tutor changed her teaching habits in easy ways which took advantage of the new medium. The presentation files started to be constructed in advance with the materials arranged in 6-slide chunks and specifically designed to trigger the kinds of discussions seen within the sessions. During the sessions themselves, the tutor began to direct the gaze of the audience around the room by using physical movement as a tool, standing adjacent to materials where appropriate while sometimes retreating to stand behind the students when the situation required them to choose their own visual focus points.

The use of comparative viewing within art historical disciplines is not entirely new, and in fact the celebrated pioneer Heinrich Wölfflin gave lectures using dual slide projectors more than a century ago. Furthermore, teaching using large information displays has a successful history evidenced by the tradition of multiple sliding blackboards within Mathematics.

But as an early example of the impact upon learning and teaching that new multiple display technologies can have, these sessions have provided useful insight. Within human-computer interaction research, it has been recognised for a while that the use of large displays can boost commercial productivity, while the ability to balance multiple pieces of information is recognised as a key element of expertise within many fields. Now, the Visual Learning Lab is interested in developing more such innovative sessions across a variety of disciplines, and within small and large group teaching sessions, to investigate the implications of such situations upon processes of learning.

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