

Colouring the Gaps in Learning Design: Aesthetics and the Visual in Learning

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ABSTRACT

The visual is a dominant mode of information retrieval and understanding however, the focus on the visual dimension of Technology Enhanced Learning (TEL) is still quite weak in relation to its predominant focus on usability. To accommodate the future needs of the visual learner, designers of e-learning environments should advance the current attention on usability and functionality to include aesthetics, the visual and the affective. The challenge lies in finding a way to fully address the needs of the visual learner. This paper explores the role of visual aesthetics in improving engagement in online learning.

KEYWORDS

Aesthetics, Colour, Engagement, Technology Enhanced Learning, Visual Learning

INTRODUCTION

Many forms of information are now visually constructed and after centuries of word dominance, it is finally being realized that “what we see is as important, if not more so than what we hear or read” (Rose, 2001, p.1). Today, one is surrounded by different sorts of images and visual media, to the extent that nearly 90% of information received by us comes from the eyes (Hyerle, 2008) and close to 65% of us can be described as visual learners (Mindtools, 1998). In terms of technology enhanced learning (TEL) it has been argued that there are many exciting visual ‘learning’ opportunities to explore, and more especially, as applying aesthetic standards during online course development can ultimately improve not only the visual appearance of course content but can also improve how students react to and interact with those courses (David & Glore, 2010). However, the challenge lies in finding a way to fully address the needs of the visual learner. To consider the educational function of visual content, to enhance the understanding by Instructional Designers of the interpretation of visual content by learners (Jin & Boling, 2010) and the aesthetic judgments that are being made by students (David & Glore, 2010).

The aim of this paper is to advance the focus on the generic usability issues of TEL to include the visual dimension of TEL which is still quite weak in relation to the former. For instance, claims are being made that to accommodate the future needs of the visual learner attention needs to be paid to aesthetic perspectives, as well as the emphasis on functionality and usability (Stenalt & Godsk, 2006; Filonik & Baur, 2009). As assertions are emerging about an increase in engagement if visual aspects are incorporated in learning materials (Pinciotti & Verba, 2013), the authors feel that the time is right to explore the role of visual aesthetics in improving engagement in online learning. This paper proposes an in-depth investigation into the role of visual aesthetics in TEL; by building on past and current research, it will discuss the need for strategic aesthetic patterns in the form of a well-defined structure to support the design of the visual learning experience.

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VISUALISING INFORMATION

Information visualisation (I.V.) uses visuals to enhance the user's interaction with information. It is seen as a particular type of visual which aims to amplify cognition. As Card et al. (1999) suggest, it is the visualization through interactive and visual representation of abstract data that provides clarity, that aids meaning making, and one of its big challenges is to create representations of complex information structures in comprehensible form (Judelman, 2004). In terms of learning, information visualisation strives to overcome the complexity of data by increasing resources to the human in the form of memory and processing resources. As Card says "visualisation helps the user by making the world outside the mind a resource for thought in fairly specific ways" (cited in Jacko & Sears, 2003, p.551). Information visualisation is about being enticed to engage with visual content, for instance information; it is about understanding and interpreting, about creating something new and then possibly acting upon it. The important outcome is that the user has visually interacted with the content and has formed a convincing interpretation and understanding of it. However, there still is "a big gap in visualisation discourse between science, art, technology and design" (Judelman, 2004, p.1). As Card emphasises, to be a good information visualisation, the mappings are cognitive and must encode all of the data relations intended and no other data relations. The outcomes of information visualisation are defined: they depend on a certain amount of control to address the problem of how to use the visualisation to create an efficient and useful tool for information exploration. But as research has shown, it has become more than just that, as Judelman (2004, p.6) agrees "the challenges facing information visualisation researchers often involve finding innovative graphic and interactive techniques to represent the complexity of information structures."

Moreover, aesthetics itself can play an integral role, as it is an interaction in itself and is seen as a process of interaction which promotes a richer and more flexible means of communication, storytelling and learning (Carroll, 2008). In fact, the integration of aesthetics in learning promotes curiosity, exploration, investigation, creativity, and meaning (Pinciotti & Verba, 2013). Learning integrated with the aesthetic component, can be more experiential where the user/ learner applies a combination of their senses, their intuitions, past experiences and intellect to solve the problem or tell the story (Hoffmann, 2003).

WHAT DO WE MEAN BY THE TERM 'AESTHETICS'?

When we talk about the visual and in particular the visual aesthetic, we are essentially talking about something that is sensually attractive/ arousing in itself, an object that then goes on to generate feelings to inform a greater sense of what the object is about and means. The aesthetic object exists in itself (i.e. the colour white gives cool, peaceful and secure feelings) but also through the senses informs the meaning (i.e. a white room is cool and secure and could possibly represent a hospital room etc). As Hoffmann (2003, pp.7-10) explains about aesthetics: "Beauty does not reside in simplicity. Nor in complexity, per se. For a molecule or a song, for a ceramic vase or a play, beauty is created out of the labor of human hands and minds. It is to be found, precarious, at some tense edge where symmetry and asymmetry, simplicity and complexity, order and chaos, contend".

For Dewey (1934), all art is the result of the interaction between the living organism and its environment. It was an integration of both the body and the mind – an aim to "serve the whole creature in his unified vitality" (Shusterman, 1992, p.7). Indeed, Dewey firmly believed that a person must engage his or her feelings and energies as well as his or her physiological sensory responses in order to appreciate art: "to see, to perceive, is more than to recognise. It does not identify something present in terms of a past disconnected from. The past is carried into the present so as to expand and

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