Chapter 20

What Do Good Designers Know That We Don’t?

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The research reported in this paper was an investigation of the engaging and immersive properties of game and learning environments. The qualitative study was done in cooperation with six elite designers and two team members of recognized and/or award-winning products. From the findings, a prescriptive aesthetic framework was developed based on (a) data and (b) aesthetic experience literature. Aesthetics were reviewed because popular multimedia environments appear to arouse the same characteristics as aesthetic experience. Results indicate that this may indeed be the case.

INTRODUCTION

In a rich learner-centered environment, the learner is more actively engaged in the process of learning and not merely an observer (Duffy and Jonassen, 1992; Hannafin, 1992; Jennings, 1996; Rieber, 1996). While the Web has the elements (e.g., audio, video, graphics, asynchronous and synchronous communication, group participation) for providing authentic and meaningful experiences for the learner (Relan and Gillani, 1997), current models do not provide this kind of a design context (Tessmer and Richey, 1997). Identifying a model or framework for creating engaging and immersive environments that can be applied to web-based learning was the focus of this study.

Engaging and Immersive Learning Environments

The idea of engaging and immersive environments is certainly not new, but research into their creation and use is currently receiving a high degree of attention (cf. Balmouth, Previously Published in Challenges of Information Technology Management in the 21st Century edited by Mehdi Khosrow-Pour, Copyright © 2000, Idea Group Publishing. This chapter appears in the book, Web-Based Instructional Learning by Mehdi Khosrow-Pour. Copyright © 2002, IRM Press, an imprint of Idea Group Inc.
1996; Geirland, 1996; Khaslavsky and Shedroff, 1999; Laurel, 1993; Luskin, 1996; Winograd, 1996) from diverse fields. Laurel (1993) writes: “Think of a computer, not as a tool, but as a medium” (p. 126). This medium can be used to create engaging and immersive experiences that she compares to theater productions where the users are not merely observers, but actors in the play.

An engaging and immersive framework may be based on a perspective that has its roots in certain hedonic unifying concepts, such as our delight in well-ordered universe. These concepts, common to much of human experience, are generally referred to as aesthetics. It is important to understand that in this context the term aesthetics is used more broadly than the usual notion of visual beauty or theory of the beautiful. Aesthetics in this extended sense encompasses more than sensory experience and includes the concepts that allow mathematicians to speak of a beautiful equation or engineers of an elegant design solution. This extended concept of aesthetics includes perceptual, cognitive, and affective components.

Aesthetic experience, comprised of the characteristics of unity, focused attention, active discovery, affect, and intrinsic gratification (Beardsley, 1970, 1982) may be a means to produce engaging and immersive environments.

**PURPOSE OF THE STUDY**

Successful games and learning products seem to utilize a holistic and multi-modal approach to engagement and immersion. In other words, popular multimedia environments appear to contain many of the criteria necessary for an aesthetic experience. The study had two purposes. First, to determine if aesthetic characteristics were part of the design process of successful developers of game and educational environments, and second, to develop a framework based on their techniques. It was done in cooperation with six elite designers and two team members of recognized and/or award-winning game and educational products.

This research study is one of the steps toward support for cognitive aesthetics (Jennings, 1996) which has been proposed by this author and is defined as the merging of learning and aesthetic principles to create natural and pleasing learning environments.

**LITERATURE REVIEW**

The important aspects of aesthetic literature for this research were (a) the viewpoint of both philosophers and researchers that contribute to the understanding of aesthetics as an affective and cognitive experience, and (b) the characteristics of such experiences. Aesthetic experience is a sensory and thought-provoking event, often intense in nature which is distinguished by a particular set of characteristics.
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