Chapter 13
Computer Games for Affective Learning

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ABSTRACT

This chapter addresses how computer games can support affective learning, taking specific focus on learning for the affective domain. It first explores this domain, describes the issues that can arise in support, and makes connections to the strengths of computer games. The chapter uses activity theory to highlight the role of a game as an effective mediator of learning in the affective domain. These studies of how games support the affective domain involve the observation of game-play and identification of recurring design elements that can be identified as patterns. The chapter describes several patterns, first in larger commercial games, and then in smaller serious games. Finally, it reflects on its findings, and surveys the general nature of game support for learning in the affective domain. Clear evidence is given that games can and do provide such support, with indications of even greater potential with better understanding of the nature of the game-play.

INTRODUCTION

Computer games are now ubiquitous, and their role and value for learning has been substantiated in many areas. Similarly to Durkin and Barber (2002), we are using "computer game" in this article as a generic term independent of platform (PCs, laptops, consoles, etc.). Playing computer games has been shown to have substantial cognitive worth. Educational researchers have documented how computer games can improve practical reasoning skills and heighten levels of continuing motivation, and complex problem solving (De Aguilera & Mendiz, 2003). Indeed, as Gee (2007) highlights, computer games challenge players to strategize, to solve problems,

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and to acquire a range of skills that can transfer over to other domains. This mostly applies to the cognitive side of learning and development.

The importance of the affective domain, dealing with the emotions and social values that shape one's behavior, has often been overlooked. And despite some related research on affective gaming and research regarding the role of emotions in games, this area is not well documented. Emotional involvement typifies computer games because we care about our avatar's fate, we feel for them, we identify with their needs and desires, and thus grow with them, demonstrating important features for affective learning (Gros, 2003; Pohl, 2008). Computer role-play games create the opportunity to act out and experiment with different roles, and thus can support affective development in a specific way: they allow easy exploration of different perspectives, patterns of behaviour, and resulting consequences. Thus, we propose in this chapter to focus on affective learning, especially learning in the affective domain.

The use of computer games for education and life-long learning has increased drastically in a variety of contexts, including universities, workplaces and other specific domains. Games are becoming an important form of interactive rhetoric and an educational tool. Serious games such as social change games attend to a complex range of socio-emotional issues involving the promotion of social awareness, emotional competencies, and behaviour changes. We thus need to better understand the ways in which affective learning can be supported through games, and develop a critical understanding of the affective learning potential of computer games.

We are interested in understanding how computer games can effectively support affective learning and the acquisition of affective competencies for training, leisure and life-long learning. In this chapter we focus on learning in the affective domain and the design of games for adults (including young adults). We first define affective learning and situate learning in the affective domain. We then introduce activity theory and discuss how we apply it to understand support for affective learning in games. We go on to discuss the conceptual tools that can support affective learning through the identification of reusable game design patterns. To illustrate game design patterns, we present two case studies: the first relates to commercial games and the representation of socio-emotional interaction; and the second relates to social change games and how they support affective learning. To conclude, we address the wider context of game-play and suggest future development. We hope this chapter will constitute a call for action for further research in this promising area.

BACKGROUND: AFFECTIVE LEARNING

Perhaps the most well-known aspect of affective learning involves supporting cognitive leaning. Affective learning includes sustaining positive attitudes toward the course content, subject material or the teacher (Russo & Benson, 2005). Teachers provide emotional assistance and so help students to manage their emotions, therefore reducing anxiety and stress generated by learning tasks, and thus facilitating immediacy. It can also involve support for the joy of learning, inspiring a persistence to accomplish the desired goals even in the face of difficulty (Schlechty, 2001).

This aspect of affective learning is not our focus in this chapter, but we acknowledge its importance as a particularly relevant factor for serious games, as these games have to be engaging and fun to motivate play. Fun and enjoyment are well known to be effective in development, both in supporting and deepening learning as well facilitating engagement and motivation (Bowen, 2005). How computer games can motivate players has been well documented in the work of many, especially including Malone (1981) and Squire (2003).