

# Appendix D

## Game Mods: Customizable Learning in a K16 Setting

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### ABSTRACT

*A game mod describes a modification within an existing commercial, computer-based game that has been created by a user. By game modding, a user can participate in the creative process by taking the setting of their favorite game and customizing it for entertainment purposes or to convey information. For years, commercial computer-based game developers committed considerable resources towards preventing users from “hacking” into or “hijacking” their games. Now several computer-based game developers provide editors with their products to encourage users to create content, and to allow educators, for instance, to take advantage of the benefits and production quality of commercial computer games to create customized instruction. This chapter focuses on mainstream, accessible games with straightforward modding tools that can be easily integrated into a learning environment.*

### What Do Computer Games Have to Do With Learning?

*Anyone who thinks there is a difference between education and entertainment doesn't know the first thing about either.*

—Marshall McLuhan, Communications Theorist

### INTRODUCTION

Learning theorists from Piaget to Jonassen contend that profound, lasting learning culminates from the participant exploring, discovering, and interacting with their environment and culture

to assimilate and create new meaning within their personal schema (Donaldson, 1984; Jonassen, 1992; Satterly, 1987). For a computer-based, constructivist learning environment, the quality of the user's learning experience is vested in the extent to which the computer responds in a way

that is consistent with the learner's information processing needs (Jonassen, 1988). The level of the user's interactivity and consequent sense of empowerment and control over their learning experience will affect the extent to which surface or deep learning will occur (Jonassen, 1988). Studies using computer games in learning settings, particularly the classroom, indicate that while student test scores may not improve significantly from using games, students do learn on a more profound level, and are able to describe, for instance, why an answer to a test question is correct or incorrect (Squire, 2002b). While this outcome appears marginal at this point, it is worth exploring what computer games *do* afford a user: empowerment, motivation, insight, and engagement (Gee, 2003; Prensky, 2001).

How one might harness and channel a game's learning opportunities into the classroom in a way that empowers self-directed learning and the development of conceptual tools? Recognizing that emerging and even current learners have most likely grown up with a mouse in hand or at least developed considerable schema shaped by interacting with computer-based technology, computer games have gone beyond satiating the game playing public as a dalliance or source of entertainment and evolved into a meaningful, socially expressive medium, a platform for discussion and reflection that continues after the game session is over and outside the context of the game. However, the resources needed to create a commercial, computer-based game are formidable, in many cases requiring the expertise of game designers, computer artists, and programmers, not to mention robust marketing support. Many have endeavored to create educational games for the classroom and workplace, but most have neither the resources nor expertise to match the production quality and comprehensiveness of content characterized by more mainstream, commercial computer-based games.

Given these requirements and constraints, how might one harness and channel a game's learning

opportunities into the classroom? Perhaps game mods could provide a means for educators to use the quality and basic format of commercial games to create customized instruction for enabling students to create meaning in their own learning. A game mod describes a modification within an existing commercial, computer-based game that has been created by a user. To do this, a user works with the game's existing assets to alter a small segment of the game's graphics, text, audio, or interactivity. In effect, a user can participate in the creative process by taking the setting of their favorite game and customizing it for entertainment purposes or to convey information.

### **MODS: RULES OF THE GAME AND TERMS OF ENGAGEMENT**

For years, commercial computer-based game developers committed considerable resources towards preventing users from "hacking" into or "hijacking" their games (Holt, 2004); however, and perhaps in keeping with the spirit of gameplay, many game users consider these prohibitive efforts simply another challenge to master within the game environment (Holt, 2004). Now several computer-based game developers are providing editors with their products to encourage users to create content (Marriott, 2003; Prensky, 2003). It is important to note that these editors do not reveal the entire code, but only enough for the user to create several levels of modification (Holt, 2004; Marriott, 2003; Prensky, 2003).

Why do commercial game developers even offer this much? According to Chaptmann (2004), Holt (2004), and Prensky (2003):

- Within the game cultures, "cool" game companies encourage modding; they are more respected for their responsiveness and their show of confidence in their users' technical competency

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