

Chapter 5

Does Fantasy Enhance Learning in Digital Games?

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ABSTRACT

Digital games have the potential to create environments that increase motivation, engage learners, and support learning. This chapter focuses on fantasy as one of the motivational features of games, and explores the relationships among digital games, fantasy, and learning. The authors describe game characteristics and the key factors that make digital games motivational and compelling – important factors in designing games for learning. Motivation is critical in engaging students in learning activities, and this chapter explores fantasy as an important motivational feature in digital games, the popular genre of fantasy role-playing games such as Dungeons & Dragons, and the importance of creating different kinds of fantasies for males and females. Finally, the authors explore the integration of learning content in fantasy contexts in digital games.

INTRODUCTION

Digital games have the potential to create environments that increase motivation, engage learners, and support learning (e.g., see Shaffer, Squire, Halverson, & Gee, 2005; Stewart, 1997). Research suggests that imagination plays a large part in this. Digital games allow learners to explore their imagination comfortably (Millians, 1999). Using fantasies, mental images, and non-real situations

in digital games can stimulate learners' behavior (Vockell, 2004), making learning more motivating and appealing by presenting the material either in an imaginary context that is familiar to them or in a fantasy context that is emotionally attractive (Malone & Lepper, 1987). Creating environments that absorb learners in a fantasy world can motivate and engage them in learning activities (Cordova, 1993). Past empirical research suggests that embedding material in a fantasy context can enhance learning more than a generic, non-contextual environment (Cordova, 1993; Garris, Ahlers, & Driskell, 2002,

DOI: 10.4018/978-1-61520-731-2.ch005

citing Druckman, 1995). However (as discussed in more detail later in the chapter), recent research (Habgood, 2007) challenges the established fantasy-based integration of learning material with games and proposes an alternative perspective that identifies game mechanics as more critical than fantasy to effective integration.

This chapter focuses on the relationship between fantasy and learning in computer-based instructional games. Since learning is believed to be one of the benefits of play which is related to factors such as increased motivation (Rieber, 2001), and digital games are reported to increase motivation, we first review the features that make such games motivational. We discuss the relationship between motivation and learning in order to show that including motivational features in educational games affects students' learning. Among such motivational features, we focus on the element of fantasy. The popular genre of fantasy role-playing games such as *Dungeons & Dragons* and the importance of creating different kinds of fantasies for different genders are also explained. Finally, we explore the integration of learning content in fantasy contexts in digital games.

BACKGROUND

Game Definition

Generally, a game is defined as a set of voluntary activities which has participants, goals, rules, and some kind of (physical or mental) competition. Dempsey, Haynes, Lucassen, & Casey (2002) define a game as "a set of activities involving one or more players. It has goals, constraints, payoffs, and consequences. A game is rule-guided and artificial in some respects. Finally, a game involves some aspect of competition, even if that competition is with oneself" (p. 159). The term "digital game" usually refers to games played using a personal computer or personal game machine. Prensky (2001) defines digital games by a

set of key characteristics including: rules, goals and objectives, outcomes and feedback, conflict/ competition/ challenge/ opposition, interaction, and representation or story. (see Chapter 1 for a complete discussion). Digital games can be categorized as adventure, simulation, competition, cooperation, programming, puzzles, and business management games (Hogle, 1996, citing Dempsey, Lucassen, Gilley, & Rasmussen, 1993; Jacobs & Dempsey, 1993).

During the past 40 years, digital games have been played with a variety of technologies and on many devices: from a sealed console, floppy disk, CD-ROM, with email, on the Internet, and with handheld machines such as the *Game Boy*®, mobile phones, and game consoles such as the Sony *PlayStation*® 2/3 or Nintendo's *Gamecube*®. Digital games can be played individually, against the computer, or against other people, either face-to-face or online. The terms computer game and video game are usually used interchangeably and the term "digital game" incorporates both.

Game Characteristics

Digital games share a number of essential features. Good games are fun and intrinsically motivating. The best games, as Prensky (2001) asserts, are easy to learn while providing many challenges. Some features that help players learn a game and get immersed in it include clear and concise instructions (Gee, 2003), help functions, tips, and 'winning prototypes' (examples of how to play the game) (Dempsey, Lucassen, Haynes, & Casey, 1996), and clear, constructive, and encouraging feedback (Malone, 1980; Reeve, 1992). Motivating games also incorporate an optimal challenge (Csikszentmihalyi, 1990), have an appropriate and clear goal (Dempsey et al., 1996; Malone, 1980), and offer clear and meaningful rules (Becta, 2001, cited by Mitchell & Savill-Smith, 2004; Garris et al., 2002; Prensky, 2005).

More motivating features include elements of curiosity and fantasy (Malone, 1980), having an

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