

## Chapter 4.20

# Narrative Development and Instructional Design

**Douglas Williams**

*University of Louisiana at Lafayette, USA*

**Yuxin Ma**

*University of Louisiana at Lafayette, USA*

**Charles Richard**

*University of Louisiana at Lafayette, USA*

**Louise Prejean**

*University of Louisiana at Lafayette, USA*

### ABSTRACT

This chapter explores the challenge of balancing narrative development and instructional design in the creation of an electronic game-based learning environment. Narrative is a key factor in successful commercial games. The hero's journey is explained and proposed as a model narrative structure for developing educational role-playing games and informing instructional design. Opportunities to embed various instructional strategies within the hero's journey structure are presented.

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### INTRODUCTION

With annual proceeds that exceed the movie industry, the popularity of entertainment video games is stunning. In January 2007, Blizzard Entertainment announced that their massively multi-player online role-playing game (MMORPG), *World of Warcraft*, had more than 8 million subscribers (Blizzard Entertainment, 2007). The result has been a call by many, including the Federation of American Scientists (2006), to explore digital games as a viable approach for teaching in K-12 and higher education.

An increasing number of game-based learning environments are currently under development or have recently been released in which the learner is placed in virtual worlds and asked to engage in various tasks. For example, *River City*, for children ages 11-14, is a multi-player virtual environment emphasizing player tasks designed to develop higher order thinking skills and content knowledge in biology and ecology (Ketelhut, Dede, Clarke, & Nelson, 2006). *Quest Atlantis*, for children ages 9-12, immerses children in a virtual world with an emphasis on developing social responsibility (Barab, Thomas, Dodge, Carteaux, & Tuzun, 2005). *PeaceMaker* provides opportunities for a player to develop an understanding of the Israeli-Palestinian conflict through an engaging simulation (Impact Games, 2007). With this heightened interest in digital game-based learning, comes a need to explore methods and models for designing effective educational games.

One of the key issues in the design of electronic game-based learning environment involves aligning the requirements of multiple components of a game, such as narrative, gameplay, and instruction, to create a game that is both engaging from the narrative and gameplay perspectives and effective from the instructional design perspective. For many game genres, a compelling narrative context is essential to engage players fully and provide them with an appealing range of options and outcomes in creating their own stories. In developing electronic game-based learning environments, balancing the development of a compelling game narrative with instructional design needs can be challenging. There is little guidance in the literature on how to create stories that meet instructional goals and how to develop educational content in the context of stories. The purpose of this chapter is to share our own experience in aligning the demands of good interactive storytelling on the one hand with sound instructional design on the other, in the creation of a role-playing game for teaching life science and scientific inquiry for children ages 11-13. The

implications for design outlined in this chapter will likely inform instructional designers of how narrative can be effectively utilized in educational game-based learning environments.

## LITERATURE REVIEW

### The Art of Narrative

One only has to look into the face of a child as she listens to a story to realize the power of this medium to entertain and to educate. On a daily basis, we engage in storytelling with those around us. The use of stories to pass on knowledge is common in all cultures. Storytellers seek to expand one's conceptual understanding of a topic or share relevant experiences that others have had (Burke, 1993). Parents often share stories with their children in order to teach some lesson. Grandparents may pass on family knowledge in the form of stories. Stories, in some form, are an essential part of everyday life. Stories can provide a meaningful context for learning through the description in rich detail, engaging characters, and illustration of knowledge in context. In contrast with typical methods of knowledge representation, stories provide a rich description of situations which are more meaningful to students.

By and large, the conventions of Western narrative are founded on aesthetic principles advanced by Aristotle, who argued that, at its best, narrative has the capacity to be both entertaining and edifying. The most lasting influences of Aristotle's *Poetics* on Western narrative are found in the conventions of *character* and *plot* (Aristotle, trans. 1997). Character may be understood broadly to refer to the personal forces at work in a story, shaping—and shaped by—the plot. Plot is the unfolding of action and the arrangement of incident in the story. For the reader or audience, characters provide the point of access, so to speak, for understanding and appreciating that unfolding action.

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