Chapter XVIII
Alternate Reality Games as Simulations

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ABSTRACT
This chapter discusses Alternate Reality Games (ARGs) as simulated experiences, and presents the conceptual framework that informed the design and development of an institutional capstone course aimed at fostering global thinking and real-world problem-solving skills. The course engages community college sophomores in a capstone experience in which learners design and develop an alternate reality game (ARG) based on the theme of global sustainability and the United Nations Millennium Development Goals.

INTRODUCTION
In two different locations across the city from one another, Joshua and Samantha open a website that they receive by e-mail from an anonymous source. The text of the site appears to be for a small company called Patton Industries. Each player opens an instant messenger client, finding the other’s icon glowing quietly. “How do we proceed?” Joshua types, his question flickering on-screen. “Revelation Strategy Two,” Samantha replies. “Sometimes, the link only shows itself when highlighted.” Running the cursor across the screen and holding the left mouse button, a blue highlight shadows the text until a blurry hyperlink appears. They click a barely visible word that glows in the corner of the website and a video begins to play that shows a dark forest, filled with pine trees. After a few seconds, it ends suddenly with a series of letters and numbers. They replay the video a few times, typing their thoughts back and forth to one another across the digital ether until they slow the last few frames down to half speed. A pale white, recognizable face reveals itself for
a flash, but the eyes are deathly black. “We had better report this to the others,” Samantha says. “Something is wrong with the game...” What is the game? It’s an emerging genre of digital game known as an Alternate Reality Game (ARG). The skills involved in playing such games differ somewhat from those associated with more traditional forms of electronic gaming.

In the information age, the need to develop in learners the higher order thinking skills that translate into real-world problem-solving ability is more urgent than ever before (Dillon, 2006; Secretary’s Commission on Achieving Necessary Skills, 1991; The Safflund Institute, 2007). As early as 1991, the Secretary of Labor’s Commission on Achieving Necessary Skills found that basic skills in reading, writing, and mathematics were the “irreducible minimum for anyone who wants to get even a low-skill job” but those skills were not a guarantee to either a career or access to higher education. Employer surveys continue to emphasize “thinking skills...[that] permit workers to analyze, synthesize, and evaluate complexity” are requisite to success in the global workplace (p. 14).

Moreover, the accountability movement in American education has driven educational institutions at all levels to examine what learning should be occurring at their institutions, devise means to measure that learning, and seek to continually improve the processes that have an impact on this learning (U.S. Department of Education, 2002; 2007). However, as a recent National Science Foundation (NSF) sponsored report suggests, educational systems continually have to do more with less; although employers are demanding these additional skills, learning institutions have to instill those skills without adding additional credit hours or courses to their programs (The Safflund Institute, 2007). The means to achieving this end then is through changing instructional strategies in existing courses, and/or providing that vital added value through communications technologies, simulations, and other forms of digital media.

**SIMULATIONS FOR LEARNING**

Over the centuries, many definitions have been offered to identify what simulations are, most of which indicate that simulations represent some model of reality (Greenblat & Duke, 1981; Guetzkow, 1963; Horn, 1977). Moreover, most find that the value of simulations as a tool for learning is in representing reality such that knowledge gained in the simulated environment can be cognitively transferred to real situations (Aldrich, 2003, 2007; Heinich, Molenda, Russell, & Smaldino, 1999; Pearce, 1997). For immersive digital simulations, this value stems in part from their ability to situate learning in contexts that better reflect the real world and to immerse players in challenging learning experiences. According to Lave and Wenger (1991) and Bransford et al (2003), situating learning in relevant environmental contexts can provide learners with cognitive scaffolds that are expected to increase levels of learning, engagement, and transfer to future work. Methods that anchor instruction to meaningful and authentic contexts have been found to better allow learners to understand and transfer complex concepts than instructional methods which neglect to convey how, when, and where a concept can be applied in future situations that the learner might encounter (Cognition and Technology Group at Vanderbilt, 1990, 1993). Such methods are also thought to immerse learners in a community of practice, wherein they perform the roles of a practitioner rather than a learner—functioning, for example, as a scientist rather than a student in order to solve scientific problems, as opposed to the often decontextualized student challenges of completing an assignment or passing a test (Brush & Saye, 2001). Indeed, technological advances in computer-generated media have allowed the creation of immersive simulations that graphically represent reality more closely than ever and to pre-program these environments for almost instantaneous feedback based on parameters observed in reality. This learning affordance (Gibson, 1977)
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