

Chapter 11

Learning and Teaching as Communicative Actions: *Broken Window* as a Model of Transmedia Game Learning

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EXECUTIVE SUMMARY

*Over the last decade, digital games have become important vehicles to support student learning. One form in particular, transmedia games, have shown a propensity to allow instructors, students, and designers to create learning games inexpensively and rapidly, while showing learning improvements and allowing for rapid change as the need arises. There are two goals for this chapter. The first is to review existing theoretical models of game learning and to provide an overview of a new model called “Learning and Teaching as Communicative Actions.” The second is to give a detailed description of the design process for *Broken Window*, an alternate reality (AltRG) transmedia game that was developed to support undergraduate learning in a computer applications course.*

INTRODUCTION

Over the last decade digital games, simulations and other complex systems have been at the forefront of the push to support learning in education (Gibson & Baek, 2009b; Squire, 2008). Games and simulations offer learning affordances such as interaction and rapid feedback, autonomous learning opportunities, and a safe place

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in which to engage in repeated practice of skills that may be too dangerous to do in the real world (Prensky, 2001; Warren & Lin, 2012; Winn, 2002). These tools have also been found to engage students and motivate them in learning especially in areas of science and literacy (Squire, 2008). This chapter examines the educational potential of transmedia games as a means of supporting learning. Transmedia is storytelling through multiple media, information gathering and making connections, and is based on engagement, extended use of technology and collective intelligence (Jenkins, 2006). Each component is experienced individually but makes a valuable contribution to the story as a whole (Jenkins, 2006). In a transmedia learning experience, “[r]ather than listening to lectures, completing practice exercises, and taking frequent multiple-choice tests, students hone their technology skills by solving a series of ill-structured problems posed by fictional clients using the very tools they were expected to learn” (Warren & Lin, 2012, p. 9.) Alternate reality games are a subset of this game genre and are based on digital game based learning students are immersed in a reality similar to their own with fictional elements that direct learners, which “distribute game challenges, tasks, and rewards across a variety of media, both digital and real” (Warren, Dondlinger, McLeod, & Bigenho, 2011, p. 7). As with other game forms, alternate reality games (AltRG) hold the promise of allowing students to interact with real-world situations and engage in problem-solving while addressing core instructional goals (Warren, Dondlinger, McLeod, & Bigenho, 2011). The goal of this chapter is to introduce the core concepts of transmedia as they apply to the development of games and simulations, as well as to outline a process for designing and developing an transmedia supported alternate reality game (AltRG). We further provide an example from our own work with *Broken Window*, an alternate reality game (AltRG) created for undergraduates in an introductory computer applications course.

LITERATURE REVIEW

Learning Game Theory

To begin this section on theories of game and simulation use in education, it is important first to acknowledge that the use of video and computer games to support learning is not new and the research is distributed over a number of disciplines. As with analog technologies like textbooks, computer games are used for different pedagogical purposes to support learning. These have ranged from teacher-directed, memorization-based approaches to situated, social constructivist ones in which the learner uses the game to explore challenging problems with no single correct answer

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