INFORMATION SCIENCE PUBLISHING
701 E. Chocolate Avenue, Suite 200, Hershey PA 17033, USA
Tel: 717/533-8845; Fax 717/533-8661; URL-http://www.idea-group.com **ITB13519**

This chapter appears in the book, Games and Simulations in Online Learning: Research & Development Frameworks edited by David Gibson © 2007, Idea Group Inc.

Chapter XIII

Reliving History with "Reliving the Revolution": Designing Augmented Reality Games to Teach the Critical Thinking of History

Karen Schrier, MIT, USA

Abstract

Students need to learn the critical thinking of history, yet they rarely have opportunities to authentically simulate historic inquiry. Research has suggested the pedagogical potential for using augmented reality (AR) games—location-based games that use wireless handheld devices such as PDAs to provide virtual game information in a physical environment. The novel AR game, Reliving the Revolution (RtR), was created as a model for studying how AR games can engage students in interpretive, collaborative, and problem-solving activities. In this chapter, the game is introduced, and main results of the initial iterative tests are discussed, including what went wrong and how the game was redesigned to better support deeper engagement and historical thinking and learning.

Introduction

There may be at least two versions to every story, but how do you determine the truth when both sides have valid, but differing, perspectives? Active participants in a democracy must be able to question sources, seek out and manage differing viewpoints, and develop their own interpretations of the information they receive. Social problems do not have one clear solution; rather they require the complex consideration of multiple possibilities, prior knowledge sets, and rubrics (Brush & Saye, 2005). Likewise, historians weigh evidence and decide to emphasize the particular perspectives that they feel are the best representations of the past. K-12 social studies students typically receive a litany of facts, events, names, along with one master narrative; they are rarely encouraged to empathize with alternate views or question the so-called authoritative versions of history. Teaching as though there is only one right way to view history is problematic because students are not practicing the skills necessary for historic inquiry (Hoge 2003), and also because they are not learning how to unravel the complexity of social problems, nor evaluate the world as an engaged citizen. In this chapter, I present a new augmented reality game, Reliving the Revolution (RtR), as a model for teaching historic inquiry and critical thinking, and for considering how to design engaging educational games. RtR is not envisioned as a standalone educational solution, but as an activity supported by a teacher or mentor, and integrated into a broader history curriculum that incorporates experiential learning, teamwork, and critical thinking skills.

Overview of RtR

What better way to prepare students for skills essential to democratic engagement than by immersing them in a time when these democratic values were being questioned? RtR takes place in Lexington, Massachusetts—the site of the Battle of Lexington, which precipitated the American Revolution—and enables participants to simulate the activities of a historian. The game functions as a virtual analogue to the Battle and a practice field for historical methodology; it encourages the collection and analysis of evidence, the testing of hypotheses, and formulation of conclusions, in the site where this evidence was first generated. Thus, the participants learn about a specific historic place and time, as well as the context for what occurred there, and construct their own views of the past, while considering alternative views of history (see Figure 3 for a detailed list of pedagogical goals).

The participants' primary goal in RtR is to reconstruct the events of April 19, 1775 and decide who they think fired the first shot that initiated the Battle of Lexington. To do this, participants walk around present-day Lexington Common and encounter the physical buildings and sites involved in the Battle of Lexington. They also use a personal digital assistant (PDA) to "interact" with virtual historic figures and gather virtual testimonials, evidence, and items, all triggered by Global Positioning Software (GPS) depending on their specific location. For example, when a player approaches the Buckman Tavern (Figure 1), a historical personality such as Paul Revere appears on the PDA and provides his story of the events at Lexington. These virtual historic figures, also called non-playing characters (NPCs), provide a testimonial (and often a document) based on what they think happened before and during the Battle (see Figure 5).