

Chapter 51

Incorporating the Game of Geocaching in K–12 Classrooms and Teacher Education Programs

Jeffrey Hall

Mercer University, USA

Lucy Bush

Mercer University, USA

ABSTRACT

Mobile technology integration in educational settings is becoming an increasingly important topic as information technology continues to improve, prices decrease, and mobile devices proliferate. Geocaching, a high-tech scavenger hunt played with mobile GPS devices, is a significant example of a mobile technology-based activity that can be incorporated into educational practice. The history and implications of geocaching and its technological contributions are explored, while numerous theoretical frameworks for implementing geocaching in educational settings are discussed. Existing research on educational geocaching is presented, and the social effects of this unique mobile technology activity are examined. Pedagogical applications and best practices are detailed across the spectrum of curricular areas—informed, in part, by the personal teaching experiences of the two authors. Ideas for future research regarding geocaching and other forms of mobile technology-based educational practices are developed. Finally, selected texts for additional reading are provided.

INTRODUCTION

Geocaching is a high-tech treasure hunt with great potential as an educational activity. At its heart, geocaching involves finding a hidden object, known as a geocache, using a Global

Positioning System (GPS)-enabled device such as a smartphone or a dedicated GPS receiver. Geocaches come in many shapes and forms. The most common type of geocache is the traditional cache, which is a weatherproof container (such as a metal or plastic box) with a logbook and perhaps some inexpensive objects and toys inside (Groundspeak, 2012f). Other types of geocaches

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include virtual caches, which generally involve physical landmarks (such as statues or historical markers), and earthcaches, which highlight geologically unique areas (Groundspeak, 2012f).

Geocaches are hidden around the world by volunteers, who then post the cache coordinates on websites such as Geocaching.com or OpenCaching.com. The community of geocachers, which exceeds five million people worldwide, has created over 1.75 million active geocaches around the world (Groundspeak, 2012a). To find a geocache, all one needs are the coordinates of the “hidden treasure,” a mobile GPS handheld device, and a sense of adventure.

The History of Geocaching

The origins of geocaching began on May 2, 2000, when the US government permitted civilians to receive highly accurate signals from GPS satellites (Derene, 2011; Groundspeak, 2012d). Curious to test the accuracy of the GPS signals, a computer consultant named Dave Ulmer originated the following idea: hide a container in the woods near Beavercreek, Oregon, determine its latitude and longitude using a GPS device, and post the coordinates on the Internet (Groundspeak, 2012d). In order to find the container, one would need to read the coordinates online and use a GPS device to navigate to the correct location. Ulmer’s “rules for the finder were simple: ‘Take some stuff, leave some stuff’” (Groundspeak, 2012d).

On May 3, 2000, after posting the coordinates of the container on a GPS users’ website, Ulmer invited the community to find his “stash” in the woods (Groundspeak, 2012d). Within days, two separate people had read about the hidden cache, found it using GPS devices, and wrote about their experiences online. Soon, others began hiding their own caches and posting the coordinates, sparking a worldwide interest in both hiding and seeking objects using GPS signals.

Due to the somewhat negative connotations of the word “stash,” some community members

debated a new term for the hidden container and the practice of hiding and seeking these containers (Groundspeak, 2012d). The word they developed for the container was *geocache*, and for the activity overall: *geocaching*. Since the prefix *geo* means “Earth” and the French word *cache* refers to a hidden object/location or, alternately, a type of computer memory storage, “the combination of Earth, hiding, and technology made *geocaching* an excellent term for the activity” (Groundspeak, 2012d).

This new term was quickly adopted for the creation of Geocaching.com, a website devoted to disseminating geocache GPS coordinates and building a community of geocachers (Groundspeak, 2012d). Within months after the first geocache was hidden and found, the Geocaching.com site “was completed and announced to the stash-hunting community on September 2, 2000. At the time the site was launched there were 75 known caches in the world” (Groundspeak, 2012d). Since then, over five million people have gone geocaching, searching for over one million geocaches around the world (Groundspeak, 2012a).

Implications of Geocaching and Geocaching.com

Although the concept of hiding and seeking objects for entertainment is undoubtedly ancient, “what separates geocaching from a run-of-the-mill scavenger hunt is the integration of technology. The tech is twofold, geocachers use GPS navigation devices to find their quarry, and sophisticated online databases to organize, find and share the location data” (Derene, 2011, para. 3). This modern twist on an ancient pastime has made the activity seem fresh and inviting to a new generation of participants who may be more at home in front of a computer screen than trekking through the woods. For young people raised on playing video games indoors, the idea of integrating handheld technology into an outdoors game can be an appealing one.

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