Chapter 5
Strategies for Developing Mobile Location–Based Learning Activities by Teachers

Hagit Meishar Tal
Holon Institute of Technology, Israel

ABSTRACT

This chapter analyses the educational activities created by teachers on an online game generator, Treasure-HIT. The analysis focused on two main components that exist in every game: (1) the location clue, which leads the players to the different stations of the game, and (2) the station task, which the players have to perform when they reach the right station. This qualitative research was based on content analysis of the activities accumulated on the system’s server. A total of 112 games were analyzed, including 1272 clues, 1005 stations and 1862 station tasks. Five types of location-dependent tasks were identified: identifying information found on site, camera documentation, receiving an answer from someone on site, physical activities dependent on the location, measurements using a mobile phone, and leaving a personal mark.

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INTRODUCTION

In recent years, smartphones have become popular learning tools (Prensky, 2005). The mobility of wireless devices produces new learning opportunities. The main one is “location-based learning”, namely, learning depends on the place and context in which the learner is situated. In our current study we utilized Treasure-HIT, a free platform for teachers to create treasure hunts that use smartphones in order to locate stations and manage learning activities in each station (Kohen-Vacs, Ronen, & Cohen, 2012). Users can develop location-based learning activities using Treasure-HIT. The aim of this study was to examine what strategies the teachers developed in the creation of mobile location-based learning activities on this platform.

Location-Based Mobile Learning

The concept of mobile learning has become a term widely used by educators who use mobile phones in teaching and learning. This concept has several definitions and each emphasizes different options for learning with these devices. First and foremost, mobile learning makes use of mobile devices such as phones, tablets, smart watches, etc. (Kukulska-Hulme & Traxler, 2005). According to this definition, mobile learning can also occur as part of the regular classroom where cell phones are used to increase interaction and encourage active learning in the classroom (Traxler, 2007; Zadok & Meishar-Tal, 2015).

Another definition of mobile learning is that the learning takes place when the learner is in on the move (Sharples, Taylor, & Vavoula 2010; Lee et al. 2005). Mobile devices are light, easy to carry, require no wiring and allow an Internet connection anywhere, anytime, thus enabling user mobility in space. This allows expansion of learning activities beyond the boundaries of the traditional classroom (Giemza, Verheyen, & Hoppe, 2012). Learners can collect and analyze information using a mobile device. Learning can occur in diverse learning spaces such as museums (Sung et al., 2010), urban areas (Morrison et al., 2009), archaeological sites (Costabile et al., 2008), and outdoors (Medzini, Meishar-Tal, & Sneh 2014). This is authentic learning (Rieger & Gay, 1997) that generates motivation and pleasure (Jones et al, 2006; Meishar-Tal & Ronen, 2016).

Getting out of the classroom is an opportunity to implement principles of experiential and contextual learning (Kolb, 2014; Sharples, Taylor, & Vavoula 2010). Mobile technology to be exploited optimally to the requirements of out-of-class learning should focus on direct interaction of learners with the environment. The physical place of the activity should be closely tied to the activity itself (Medzini, Meishar-Tal, & Sneh, 2013).

The mobile device could be used to enhance environmental awareness (FitzGerald, 2012). The use of built-in mobile applications such as camera, video or audio recorders enable documentation and collection of situated information via the smartphone. Using other applications that use smartphone sensors, such as a noise meter, a compass etc., can be used for measuring physical phenomena on the spot (Meishar-Tal & Gross, 2014).

One way to integrate mobile technologies into out-of-class learning is by developing location-based games (Avouris and Yiannoutsou, 2012). These are typically multi-player games played out on city streets and in built up urban environments. Some of these mobile games transcend place and time and can be played in many diverse places and extended to long periods of time, while others are designed to be event-based, to be played in specific places at specific times, like during visits in museums and other non-traditional game venues.
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