

# Chapter 64

## Urban Games: How to Increase the Motivation, Interaction and Perceived Learning of Students in the Schools

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### **ABSTRACT**

*Mobile technologies are increasingly rooted in society and, therefore, intuitively, teachers begin to take advantage of devices that students carry with them daily in a logic of 1:1 bring your own device (BYOD). In fact, it becomes crucial to use this media to promote/increase new pedagogical activities to motivate and challenge students to acquire and discover knowledge. This was the inspiration to create the MobiGeo, an Urban Game, for Geography teaching. The research question that guided the project was to understand whether the implementation of MobiGeo influence the process of learning geography in an outdoor education context. Data obtained allow the researchers to conclude that Urban Games are potential agents of motivation and interaction that predispose students to learn geography in informal learning environments. So, they suggest that the roles of teacher and student should not be abandoned but recycled and adapted to this new reality that requires more personalized and diverse activities of learning.*

### **INTRODUCTION**

Mobile technologies are increasingly rooted in society and, therefore, intuitively, teachers begin to take advantage of devices that students carry with them daily in a logic of 1:1 bring your own device (BYOD) (Herro, Kiger & Owens, 2013). In fact, as mentioned Vieira & Coutinho (2013, p.73), “The evolution of the society gave to the mobile phone an importance that goes behind the typical communication between people. It becomes imperative to use this media to promote/increase new activities that are motivating

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and challenging for students”, but BYOD programs are controversial, as schools grapple with technical support for nonstandard devices, concerns over equity, issues of classroom management, and pedagogical approaches (Dahlstrom & di Filipa 2013).

This research arises due to the emergence of a new paradigm for learning “just in time” and “anywhere” featuring the Mobile Learning that, as suggested by Kukulska-Hulme & Shield (2008), Moura (2010) or Sharples et al. (2009) point to constitute an opportunity to go beyond the classroom barriers and extend the process of teaching and learning to a custom context where the virtual and real worlds merge. Inside the emerging paradigm of m-learning, arise the so-called location-based mobile experiences (Benford, 2005), which focuses in the process of gathering information *in situ* as central to student’s learning in a personalized and motivating way. “Urban Games” are location-based mobile experiences that add context to knowledge, whereas the mediation between the game and the user is done through mobile technologies. However, the design and implementation of an Urban Game is not a simple process, since it must take into account several principles and anticipate possible constraints for students.

According to a literature review (Vieira, 2014) and agreeing to Kukulska-Hulme & Shield (2008), and O’Malley et al., (2005) mobile computing activities are mostly confined to the classroom and this is reductive, so is necessary to frame the context shared by the device itself and the user/learner mobility. Thus, according to O’Malley et al., (2005) Mobile Learning occurs when the learner “is not fixed” and when you take advantage of the learning opportunities that mobile offers.

The aims of the research was to design, implement and evaluate an Urban Game with Qr Codes and thus allow for teachers to rethink and innovate their teaching methods based on a the adoption of mobile computing, and in that sense “understand that being a teacher is feeling the need to adapt our teaching method to reality, full of emerging technologies and with which students like to deal with.”(Cruz & Meneses, 2014, p. 283).

The research question that guided the project was to understand whether the implementation of an urban game – MobiGeo – that enhanced collaboration and interaction among peers could influence the process of learning geography in an outdoor education context. The urban game was named “MobiGeo” and enrolled a group of 173 seventh grade geography students from a basic school in the north of Portugal. The activity was evaluated through the fulfillment of a questionnaire that measured three variables associated with experiencing digital games: motivation, interaction and perceived learning.

## THEORETICAL FRAMEWORK

### Urban Games

Mobile Location-based Games are a new wave of educational activities mediated by mobile technologies and based on contextual learning. An example of these games is the “urban games” or “street games”. Although, in the literature, there is a certain difficulty in defining them, certain characteristics gain consensus: i) be performed in a public space, ii) a large scale (“human scale”), and finally iii) aggregate communication technology (mobile phone, GPS, internet and digital cameras). According to Avouris & Yiannoutsou (2012, p.2120) “these games are played in physical space, but at the same time, they are supported by actions and events in an interconnected virtual space”, which can be classified into three categories: i) the ludic: games created just for entertainment; ii) the pedagogic: games with well-defined learning objectives, which can occur inside and outside the school; and iii) the hybrid: include both the

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