Chapter 10
Gamification in Service Learning: An Innovative Experience

Laura Varela-Candamio
University of A Coruna, Spain

Joaquín Enríquez-Díaz
University of A Coruna, Spain

Marcos Rouco-Couzo
University of A Coruna, Spain

ABSTRACT
This chapter aims to disseminate an educational innovation project using a game-based learning developed during the 2016/2017 academic year at the University of A Coruna (Spain) and conducted in several schools. The project is called “Economy With Science and Conscience: Toward an Emotionally Intelligent School.” It seeks to awaken the critical awareness of pre-college students in relation to economic issues as well as citizen participation in the university community. The formula of service learning used fit perfectly with this project for a better understanding of economic decision making based on social values. The main aim is to build bridges between the university and other educational levels to contribute to an educational process committed to society. Findings show good results achieved in engagement, motivation, and amusement of students to accelerate the development of knowledge and skills, and also to modify social patterns related to behavioral economics.

INTRODUCTION
In the current information society, the teaching-learning process becomes increasingly complex and requires new methodologies and formulas that respond to current demands (Castells, 1996; Auber et al., 2008). The updating of teaching methodologies is necessary both to prevent levels of academic failure and to provide students with integrative learning opportunities close to reality, enabling them to master

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the type of high level competences required by complex problems and demanded by the labor market (CRUE, 2010).

The use of ICT has proved to be very effective in different educational environments. Thus, Novo et al. (2014) showed that digital learning methods for evaluation can clearly promote the participation of students, increase their motivation and improve their competence and so, their performance in terms of qualifications. However, although digital technologies are commonplace among young people, mobile technologies still play only a minor role in education. These mobile technologies, used appropriately, can offer multiple forms of learning rather than functioning as mechanisms to replace teachers. They also have the potential to improve the dynamics of learning (Solis, 2014). UNESCO (2013) stated that initiatives which transform mobile devices into tools for learning generally provide affordable solutions to educational challenges. In particular, an increasingly important mobile learning method is gamification since games have become an undeniable way of entertainment, consumer culture, and essentially, a common part of people’s daily lives (Mäyrä, Karvinen, & Ermi, 2016).

Gamification methodologies are defined as the design of products, services and organizational practices to afford similar experiences as games do, and consequently, attempt to create value and affect people’s behavior (Huotari & Hamari, 2017). Game acceptance might be related to learning effectiveness and, in turn, acceptance can be improved with clear educational goals (Hou & Li, 2014). This technique also improves personal learning and thinking skills and can also be used to tackle specific behaviors (Harwood & Harry, 2015, Lin & Lin, 2014). For this reason, the use of game-based learning has led to the emergence of the term gamification as a buzzword. However, how does the design of games can modify behaviors among students to create future generations committed to society? Is the use of games efficient to combine greater motivation with improvements of knowledge?

However, the key is to view technology not as the sole solution, but as an enabler within a culture of learning and collaboration. Pairing this technology with new teaching practices is essential to realize its potential (Brown, 2005). A mix of different technologies will transform learning by offering a diversity of educational activities, tools and materials, and by providing tools that enable continuous monitoring, and support diagnostic, formative and summative assessment (Redecker et al., 2011, p. 62). In this sense, the university as a driver of knowledge transmission plays a fundamental role in the projection of educational innovation activities (particularly in the ITC methodologies), through the promotion of collaborative work and service learning among teachers and students of different educational levels. This collaborative work favors the constant updating of teacher’s knowledge.

Among the recent available options contrasted by their results in terms of effectiveness and utility, service learning is conceived as a form of experience-based education where students acquire a commitment to actions that relate their needs with their community, promoting their development and learning in a creative way (Jacoby, 1996). Therefore, service learning is an activity that combines curricular learning with community service (Francisco Amat and Moliner Miravet, 2010). Thus, the educational setup generates a circular link between participation in the learning of knowledge and values and services created to meet a community need (Puig Rovira et al., 2011).

Within this framework, the main objective of our work is to show a first pilot experience of service learning based on gamification by means of the use of mobile technology. In this experimental project, postgraduates (university students) dedicate time and effort to the explanation of the basis of behavioral economics among pre-college students by using gamification through a process of previous training as mentors. In particular, this innovative experience was developed in the Faculty of Economics and Business (University of A Coruna, Spain) among students from several high schools: Institutes of Secondary