



## Chapter 2

# Gamification in Physical Education Through the Popular Games of Don Quijote de la Mancha to Improve Affective Domain and Social Interactions

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### ABSTRACT

*Gamification in the educational context is currently a reality despite the absence of empirical studies that support its application. Therefore, the objective is to analyze the affective domain and the social interactions produced in Physical Education students after a gamified didactic unit of popular and traditional games. A descriptive and quantitative causal-experimental research was designed. The instrument used to assess the affective domain was the PANAS scale (Positive and Negative Affect Schedule) and the CLASS scale (Classroom Assessment Scoring System) to assess social interactions. From the analysis of the results, it has been shown that gamification promotes the development of positive affections as opposed to negative ones and produces an improvement in the quality of the level of social interactions. Therefore, it is concluded that gamification in Physical Education develops social interactions in a positive learning context.*

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## INTRODUCTION

This book chapter on motor games and gamification is justified by the new learning ecologies in the educational context that have emerged in the information and knowledge society. These pose new opportunities, scenarios and challenges for education and the learning process (Coll, 2013).

It is an established reality that game strategies linked to Information and Communication Technology (ICT) in the educational environment involve students, pedagogical interaction and foster motivation for learning, cooperation and problem solving, so that students improve creativity and critical thinking (Monguillot et al, 2015).

At present, along with learning based on games, serious games or role-playing games, there is a marked trend towards the use of gamification as a learning strategy, method and/or technique (Martín et al, 2013) in different environments such as business, health and education (Melchor, 2012).

As proposed by Foncubierta & Rodríguez (2014), the term gamification comes from a field outside education. However, its existence is not surprising due to the fact that game elements have always been present since the world was analogical. In fact, in ANNEX 1, section b of Royal Decree 126/2014, of March 1, which establishes the basic curriculum for Primary Education, it is stated that the game is an essential resource at this stage as a learning situation and as a didactic tool. Physical Education, as an area whose main objective is to develop students' motor skills, is an educational stage where play and the forms of play are used as a methodological resource to promote learning. Therefore, play and learning are related.

On the other hand, although limited, there is some research that reveals the possibilities of achieving optimal results by applying gamification techniques in the area of Physical Education. For example, Battet (2016), used gamification as the main methodological strategy in the area of Physical Education for the development of healthy behaviors and the acquisition of personal values with Secondary Education schoolchildren, finding a high degree of satisfaction and usefulness of the situation (with an average of 8 points out of 10). This aspect coincides with another experience that shows how gamification is very positively valued by students (Moguillot et al. 2015).

All these experiences are motivating and increase students' interest leading to greater engagement and participation. Therefore, it is prescriptive to study the emotions that are generated during their participation in such experiences. Emotions that according to Miralles-Pascual et al. (2017) have their foundation in the actions and mental states that occur in the player and, Fernandez (2017) adds that in gamification, one of the aspects of special importance are the emotions created during the game.

The interest in emotions in the area of Physical Education has increased in recent decades whether we talk about emotions perceived by students (Gil-Madrona y Contreras, 2003; Gil-Madrona et al., 2006; Gil-Madrona et al., 2015); or self-perceived by students and teachers (Gil-Madrona et al. 2016) showing us that it is the students to a greater extent and in a more intense way who experience positive emotions or plancenteras in Physical Education. For this reason, Zamorano-García et al. (2018) recommend further research on emotional development and gamification.

In order to contribute to this line of research, the current study arose, with the intention of delving into the emotional development from the area of Physical Education, while seeing how a gamified structure contributes to social interactions in the classroom. Based on these precedents, a theoretical framework is elaborated where the concept of gamification and its typology as a learning technique are addressed. At the same time, this chapter presents: I) an analysis of gamification and its design; its relationship with affect and social interactions in the classroom; II) a reflection on its role and implementation in educa-

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