


# Chapter 6

## Evaluation of Implementation of Gamification, Game-Based Learning, and Active Methodologies to the Flipped Classroom Model

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### ABSTRACT

*The popularity of the flipped classroom has been rising. This pedagogical model emphasizes active and peer-assisted learning and problem solving within the*

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## **Evaluation of Implementation**

*classroom and leaves the transmission of conceptual knowledge to individual tasks outside the classroom. This research evaluates the implementation and results of gamification, game-based learning, and active methodologies used in the development of the flipped methodology. The team of researchers has been applying this model since 2017. The sample consisted of students from different subjects, Management and Administration Business, Finance and Accounting, Marketing and Market Research, and Chemistry, at the University of Malaga and in Accounting and Administration and Marketing at the Polytechnic of Porto. A statistical analysis of the degree of students' satisfaction with the application of the pedagogical model has been carried out, considering the general aspects and the level of application within each subject. The data show a very positive assessment of the teaching achieved and the strategies applied in the model.*

## **INTRODUCTION**

In the past few years, different teaching/learning methodologies and pedagogical strategies for Higher Education (HE) have been proposed (Mareca & Bordel, 2019; Rojas-de-Gracia & Alarcón-Urbistondo, 2021). The technological development and digitalization of society have introduced many innovative methods (Bordel et al., 2019) with the purpose of increasing the efficiency of the educational process. Active and cooperative methodologies appear as the most effective forms of learning (De la Cruz Tomé, 2003). In this regard, there are several studies applied to HE for various subjects that show that this type of methodologies significantly improved the motivation of students and their final grades (Calderon & Passos, 2020; García-Holgado et al., 2021; Gros, 2008; Perez-Poch, 2019; Vergara, 2020). According to Rothman (2016), given the profile of the average HE students, they need a teaching methodology that is based on four pillars. The first of these is that the explanations have to be based on graphics, even if they are complex, rather than literature. This is because they are kinesthetic, experimental and practical learners, who prefer to learn by doing something rather than following directions or reading a text. Second, they need random access to the work material, that is, they do not like to follow a fixed order and prefer interconnected activities. Third, the materials should be provided in the form of short information pills, as the students need speed and instant gratification. Finally, they like to use interactive multimedia that allows them to interact with the content.

All this has made the use of active methodologies such as the flipped classroom and gamification models are among the most common alternatives for active and cooperative learning in the HE setting. In the last decade, there has been a shift from traditional didactic lectures promoting strategies that actively involve students, in

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