

# Chapter 105

## Learning by Playing: Is Gamification a Keyword in the New Education Paradigm?

**Eduardo Díaz San Millán**  
*University of Salamanca, Spain*

**Rubén Gutiérrez Priego**  
*University of Salamanca, Spain*

### ABSTRACT

*This chapter aims to introduce the reader into the concepts Gamification and Game-Based Learning (hereinafter, GBL) and to highlight their influence on the transmission of knowledge and development of competencies and skills in the Society of Knowledge. After a brief prior familiarization with the main features of learning and educational paradigms in the twenty-first century as well as with effective teaching strategies and pedagogical methodologies in such a context, it will move towards the clarification of the meaning of the aforementioned terms and other related concepts in what might be called the framework of playful learning. Straightaway, a detailed description of the main applicable strategies to develop an effective gamified proposal will be offered. These playful techniques have a significant ability to influence learners' motivation and strengthen their commitment to training projects while their participation, engagement, curiosity, fantasy and desire for adventures are stimulated and developed. They also have plenty of remarkable chances in the field of behavioral modeling, a topic also discussed in the chapter and whose applications within Education, and in any other economic or social area, are numerous and varied. The final level of this challenge is an exploration of the key game-based design elements (aesthetics, dynamics, mechanics and components) to close the overview of the landscape that is presented.*

### INTRODUCTION

The concept of *gamification*, or the use of playful techniques in contexts which are not games themselves, has been extended to many different

fields. Games as educational tools have been used even before writing since they are one of the most effective resources to influence students' motivation levels, helping educators to induce a meaningful learning.

DOI: 10.4018/978-1-4666-8200-9.ch105

Currently, technological advances and the subsequent changes in learning-models have favored that teaching educational paradigms evolve (behaviorism, cognitivism, constructivism, sociocultural, connectivism, sharism and others) and merge with interactive digital resources that are usual in the Knowledge Society.

A merger between strategies whose products are *gamified* techniques which by combining motivators and game dynamics enhance the performance of the participants and let them reach the competencies and skills required for a successful digital and media literacy.

Among emerging educational trends, the implementation of activities and playful techniques - *gamification* and GBL - occupies a special place, being further its growth forecasts for the next decade among the most favorable. They are a set of principles and application techniques with multidisciplinary character, going their possible application fields from Marketing and Ecommerce to Health, through Education and Talent Management in organizations.

Among other benefits, by using fun techniques in Education it can be accomplished:

- Strengthening learners' motivation during all stages in training projects (both "on campus" and virtual/online),
- Promoting the acquisition of knowledge or skills development as a result of the combined action of "know-how to do", "know-how to interact" and "know-how to generate",
- Improving the retention of learners' attention and interest in the proposed activities through the combined work of extrinsic and intrinsic stimuli,
- Enhancing inclusiveness in virtual learning and encouraging socialization and community building as to maximize the benefits from informal learning, and

- Increasing the relevance of any learning processes in order to offer students the opportunity to *Learn while enjoying* and *Enjoy while learning*.

Given this scenario one can say that educational *gamification* and GBL strategies are focused on teaching innovation, boosting creativity of students and improving motivation and retention in "on campus" and virtual training.

## **LEARNING AND TEACHING IN THE 21ST CENTURY**

### **Concept, Evolution, and Basic Principles**

Learning is a permanent phenomenon, abstract and indivisible (Ranson, 1998) and its implementation differs from one person to another (Manheimer, 2008). Individuals should be involved in learning processes that enable them to acquire knowledge to reinforce their ideas and gain skills and competencies. But also must learn to eliminate ineffective study habits and adapt to the new social media and thought transmission (Braumoh, 2008).

Learning has both a single and a social component that contribute to the development of operational autonomy and self-management process (Klamma, 2006). Learning should always be contextualized and its objectives and usefulness must be easily identifiable (Edwards, 2006). Besides, since learning involves a relationship and it is not limited to formal and planned education, then any social context can be considered a learning environment (Panda, 2009). Therefore, those contexts created by new technologies favor a change in the conception of learning (and teaching); and they also influence learning deployment as new learners not only consume content but actively participate in a self-managed way (Duffy, 1992; Sun, Williams & Liu, 2003).

48 more pages are available in the full version of this document, which may be purchased using the "Add to Cart" button on the publisher's webpage:

[www.igi-global.com/chapter/learning-by-playing/126161](http://www.igi-global.com/chapter/learning-by-playing/126161)

## Related Content

---

### Emotions in Social Computer Games: Relations with Bullying, Aggression, and School Belonging

Juan F. Mancilla-Caceres, Dorothy Espelage and Eyal Amir (2014). *International Journal of Gaming and Computer-Mediated Simulations* (pp. 50-67).

[www.irma-international.org/article/emotions-in-social-computer-games/123197](http://www.irma-international.org/article/emotions-in-social-computer-games/123197)

### The Role of Mechanics in Gamification: An Interdisciplinary Perspective

Miralem Helmeffalk, Siw Lundqvist and Leif Marcusson (2023). *Research Anthology on Game Design, Development, Usage, and Social Impact* (pp. 1870-1890).

[www.irma-international.org/chapter/the-role-of-mechanics-in-gamification/315572](http://www.irma-international.org/chapter/the-role-of-mechanics-in-gamification/315572)

### Identifying Stressors and Coping Strategies of Elite Esports Competitors

Matthew J. Smith, Phil D.J. Birch and Dave Bright (2019). *International Journal of Gaming and Computer-Mediated Simulations* (pp. 22-39).

[www.irma-international.org/article/identifying-stressors-and-coping-strategies-of-elite-esports-competitors/238744](http://www.irma-international.org/article/identifying-stressors-and-coping-strategies-of-elite-esports-competitors/238744)

### Exploring Cognitive Load in Immersive Educational Games: The SAVE Science Project

Brian C. Nelson, Diane Jass Ketelhut and Catherine Schifter (2010). *International Journal of Gaming and Computer-Mediated Simulations* (pp. 31-39).

[www.irma-international.org/article/exploring-cognitive-load-immersive-educational/40937](http://www.irma-international.org/article/exploring-cognitive-load-immersive-educational/40937)

### Lessons Learned and Best Practices of Stealth Assessment

Lubin Wang, Valerie Shute and Gregory R. Moore (2015). *International Journal of Gaming and Computer-Mediated Simulations* (pp. 66-87).

[www.irma-international.org/article/lessons-learned-and-best-practices-of-stealth-assessment/136317](http://www.irma-international.org/article/lessons-learned-and-best-practices-of-stealth-assessment/136317)