

# BOARDGAMES AS LEARNING ACTIVITIES IN STEM DEGREES

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## Abstract

A serious game (also known as applied game or educational game) is a game designed not only for entertainment, but also for educational purposes. The term "Serious Game" has been normally used for video games, but it can also be applied to toys and boardgames. This paper addresses the use of serious boardgames as learning activities in STEM university degrees.

All boardgames are somehow educational for the age and level they are designed, as they stimulate, among other things, reading comprehensions, writing, mental arithmetic, strategy or creativity. Educational serious boardgame are those designed with enough exactness on a specific topic that favor learning about that topic while playing. This is the principle of learning-by-playing or gamification, and it has shown advantages at engaging students. It should be noted that an educational game is not necessarily a game based on how much someone knows about something, like the famous trivial pursuit, but a game that allows you learning (almost unconsciously) while you play.

Despite there are many games designed for adults, in particular for students in a university level in a STEM degree, the use of boardgames as learning activities is not a typical practice yet. It is normally unfeasible to "play the games" during the classes. But boardgames can be incorporated as learning activities in different ways. Herein, the following strategies will be discussed: (1) Including selected boardgames in the recommended bibliography, (2) encouraging the debate about the validity and exactness of the experimented games, and (3) designing boardgames based on the content of the course.

Keywords: Boardgames, Learning-by-playing, gamification.