# Mathematical Games with RPG and Sci-Fi Elements to Enhance Motivation

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**Abstract :** Game-based learning (GBL) is becoming popular in education. Learning through games offers students a motivating experience related to the social aspect of games. Among the significant positive outcomes are promoting positive emotions and collaboration, improving the assimilation of concepts, and creating an attractive and dynamic environment standout. This work presents a study of the design and implementation of games created with RPG Maker MZ software with a Sci-Fi storytelling environment for developing specific and transversal skills in a Mathematics subject at the Beng in Aerospace Engineering. Games were applied during regular classes and as a part of a Flip-Teaching methodology to increase the motivation and the assimilation of mathematical concepts in an engaging way. The key features of the games were the introduction of avatar design and the promotion of collaboration among students. Students' opinions and grades obtained in the activities and exams showed increased motivation and a significant improvement in their performance compared with other groups or past students' performances.

**Keywords :** game-based learning, rol games, mathematics, science fiction

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