

## **PREFACE**

### **Gamification of the Learning Process**

Over the past years, and especially during the pandemic, the teacher-learning relationship changed significantly, as did teaching methodologies and environments. However, one aspect that did not change was the need to keep Students motivated and engaged, ever more difficult in online environments.

In this evolving reality, gamification in the learning process gained an increased interest. This Special Issue shows, above all, the wide interest and applications of the field, and the generally positive outcomes of the use of game elements in education. However, it also highlights some of the ongoing challenges.

The Teacher is, evidently, the main responsible for identifying and overcoming these challenges. For this, it is fundamental that Teachers are able to diagnose their own knowledge and skills regarding what gamification is, and how it can be successfully implemented, bearing in mind that this is a fundamentally new way of delivering education. Such a tool is proposed in [1].

Teachers can then use a plethora of different game elements to implement their desired gamified approach to education. The implemented approach should be inclusive and cater to Students' needs, effectively contributing towards the achievement of their life goals, as addressed in [2]. To accomplish this, a virtually endless range of different approaches can be built, in which the limit is only the imagination of the creator, ranging from Role-Playing Games [3] to Virtual or Augmented environments [4].

Interestingly enough, there have been reported advantages, namely in the development of critical thinking skills and collaboration, of also involving students in the process of creating games or learning tasks, as shown in [5] and [6]. This can be further potentiated through the use of appropriate frameworks or toolkits, as proposed in [7].

All this diversity results in opportunities for applying gamification in education in many different fields. The papers in this special issue address some of them, with examples in business [8], medicine [9], carpentry [4], and even for the training of teachers [10].

In general, the papers in this special issue agree on an overall positive effect of gamification on motivation, engagement and learning outcomes. However, according to the perceptions of Teachers and Students, this only happens when there are suitable resources, appropriate class planning, and adequate teacher training. These and other realistic remarks are analyzed in [11, 5 and 9].

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