

## **Learning through Play in Engineering Education—Part 2**

Learning through play has proven to be a great success, especially in areas such as primary education, foreign language courses and artistic education, mainly for drama and music. In fact, several degrees on pedagogy include subjects for training future teachers in tasks linked to play preparation and its benefits for students.

Regarding engineering education, play based methodologies have normally been connected to problem or project based learning activities, especially in architecture degrees with the typical implementation of scale models as a visual support for marketing or discussion tasks. However, until the last decades, examples of gaming and play based experiences in higher education, in particular in engineering education, have been sporadic as the teaching-learning methodology at universities has been for centuries focused on master classes and on the teachers' wisdom, more than on the students' actual learning and needs.

In recent years educational gaming has been progressively perceived as a very effective tool for improving teaching-learning activities in higher education. The use of such play-based methodologies for engineering education promotes several practical and communication skills of great value for students' future professional development, as discussed in some experiences presented in this special number. At the same time it helps to motivate students and to make them more aware of their own capabilities and the whole learning process is enhanced. As a result there is an increasing interest among scholars in investigating this area, so as to quantify its actual effect on global learning and in order to apply its principles in a more efficient way. Bringing together experiences from different technical universities on the application of these play-based activities can be of great help in optimizing their benefits for students. With such a central objective in mind, the special issue was proposed.

Due to the number of experiences covered, the special issue has been divided in two parts with the manuscripts grouped in different categories. The first part included manuscripts related to play based teaching methodologies, laboratory experiences and role plays, games and case studies. This second number concentrates on student competitions, simulators and virtual worlds, from school to technical universities and assessment of innovative teaching experiences.

We hope that the second part of the special issue on Learning through Play in Engineering Education will be of interest to all teachers and researchers trying to introduce novel student-based approaches within their teaching activities.

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