

Contents

Section I

Special Issue

Learning through Play in Engineering Education—Part 2

Guest Editor

Andrés Díaz Lantada—Universidad Politécnica de Madrid, Spain

Ahmad Ibrahim	691	Editorial
Andrés Díaz Lantada	692	Guest Editorial
Jorge Domínguez Domínguez and Jorge Axel Domínguez López	693–702	Learning to Design Experiments Using Computer Simulations
Erik Delarue, Elisabeth Laga, Leonardo Meeus, Ronnie Belmans and William D’haeseleer	703–712	Achieving Learning Potentials in an Educational Simulation Game for Trading and Generating Electrical Energy
A. García-Beltrán J. L. Ocaña, C. Molpeceres, M. Morales, J. M. González, M. Blasco and D. Iordachescu	713–721	A Virtual Laboratory for Laser Transformation Hardening
C. Ahnert, D. Cuervo, N. García-Herranz, J. M. Aragonés, O. Cabellos, E. Gallego, E. Mínguez, A. Lorente and D. Piedra, L. Rebollo and J. Blanco	722–732	Education and Training of Future Nuclear Engineers Through the use of an Interactive Plant Simulator
P. Lafont Morgado, J. Echávarri Otero, E. Chacón Tanarro, E. de la Guerra Ochoa, A. Díaz Lantada, J. M. Muñoz-Guijosa and J. L. Muñoz Sanz	733–745	Interactive Simulations of the Performance of Hydrodynamic Bearings in the ‘Machine Design’ Course
Juan J. Marquez, M. Luisa Martínez, Gregorio Romero and Jesus M. Perez	746–756	New Methodology for Integrating Teams into Multidisciplinary Project Based Learning
Rosa Arnaldo Valdés Luis Perez Sanz and José Felix Alonso	757–765	The use of Flight Simulators for Airspace Design in Engineering Education
Jayson W. Richardson, Tamara J. Moore, Gregory C. Sales and Matthew V. Mackritis	766–777	Using Computer Simulations to Support STEM Learning
Thashika D. Rupasinghe, Mary E. Kurz, Carl Washburn and Anand K. Gramopadhye	778–788	Virtual Reality Training Integrated Curriculum: An Aircraft Maintenance Technology (AMT) Education Perspective
Susanne Ihlen, Wolfram Schneider, Frank Wallhoff and Jürgen Blume	789–794	Raising Interest of Pupils in Engineering Education Through Problem Based Learning
María Ángeles Andreu-Andrés, and Miguel García-Casas	795–804	Perceptions of Gaming as Experiential Learning by Engineering Students
R. Antón, J. Gastelurrutia, J. C. Ramos, A. Rivas and G. S. Larraona	805–812	Learning through a Multiple Approach Competing Practical Exercise—MACPE: a Case Study with a Teacher’s and a Student’s Assessment
J. Carpio Cañada, T. J. Mateo Sanguino, S. Alcocer, A. Borrego, A. Isidro, A. Palanco and J. M. Rodríguez	813–820	From Classroom to Mobile Robots Competition Arena: An Experience on Artificial Intelligence Teaching
Manuel A. Forero Rueda and Michael D. Gilchrist	821–830	Innovations in Undergraduate Engineering Mechanics Education: Use of Team-Based Research-Led Project Methods for Large Student Cohorts
Carlos Veganzones, Sergio Martínez, Jaime R. Arribas, Maria E. Diaz, Dionisio Ramirez, Francisco Blazquez and Carlos Platero	831–837	A Learning Through Play Approach to the Development and Assessment of General Competences in Electrical Engineering Based on a Student Competition

Section II

Contributions in: Engineering Thinking, Scientific Reasoning, Assessment, Cooperative Learning, Active Learning, Interactive Learning, Peer Instructions, Electric Machinery, Computer Programming, Statistics, Thermodynamics, and Refrigeration

Shlomo Waks, Elena Trotskovsky, Nissim Sabag and Orit Hazzan	838–851	Engineering Thinking: The Experts’ Perspective
Maher Al-Arfaj	852–858	Scientific Reasoning Abilities of Undergraduate Science and Engineering Students at King Faisal University

A. F. Almarshoud	859–866	Developing a Rubric-Based Framework for Measuring the ABET Outcomes Achieved by Students of Electric Machinery Courses
Miguel Arevalillo-Herráez and José M. Claver	867–874	Assessment Technique to Encourage Cooperative Learning in a Computer Programming Course
Huei-Chun Huang, Shen-Guan Shih and Wei Cheng Lai	875–884	Cooperative Learning in Engineering Education: a Game Theory-Based Approach
Andreja Drobnic Vidic	885–896	Impact of Problem-based Statistics Course in Engineering on Students' Problem-Solving Skills
Milo D. Koretsky and Bill J. Brooks	897–908	Comparison of Student Responses to Easy and Difficult Thermodynamics Conceptual Questions during Peer Instruction
R. Cabello, R. Llopis and D. Sánchez and E. Torrella	909–918	REFLAB: An Interactive Tool for Supporting Practical Learning in the Educational Field of Refrigeration
	919	Guide for Authors