## Contents

### Invited Paper

Open Education Practices as Answer to New Demands of Training in Entrepreneurship Competences: The Role of Recommender Systems  
*Edmundo Tovar, Nelson Piedra, Jorge López, and Janneth Chizaiza*

3

### Papers

**Identification and Formalization of LMS Instructional Design Languages: Moodle Case Study**  
*Nour El Mawas, Lahcen Oubahssi, and Pierre Laforcade*

21

**APLe: Agents for Personalized Learning in Distance Learning**  
*Stamatis Panagiotis, Panagiotopoulos Ioannis, Goumopoulos Christos, and Kameas Achilles*

37

**Recognition of Reading Activities and Reading Profile of User on Japanese Text Presentation System**  
*Kyota Aoki, Shinjiro Murayama, Shu Aoki, and Shuichi Tashiro*

57

**Assisting European Portuguese Teaching: Linguistic Features Extraction and Automatic Readability Classifier**  
*Pedro Curto, Nuno Mamede, and Jorge Baptista*

81

**A Framework for Designing On-line Listening Activities for Postsecondary Music Courses: What Students’ Performance and Perceptions Tells Us**  
*Patricia Boechler, Mary Ingraham, Luis Fernando Marin, Brenda Dalen, and Erik de Jong*

97

**Dynamic Adaptive Activity Planning in Education: Implementation and Case Study**  
*Jaime Pavlich-Mariscal, Mery Yolima Uribe-Rios, Luisa Fernanda Barrera-León, Nadia Alejandra Mejia-Molina, Angela Carrillo-Ramos, Alexandra Pomares, Juan Camilo González-Vargas, Monica Brijaldo, Martha Sabogal, Rosa Vicari, Ramon Fabregat, and Hervé Marti*

112

**A Meta-Modeling Approach for Capturing Recurrent Uses of Moodle Tools into Pedagogical Activities**  
*Esteban Loiseau, Nour El Mawas, and Pierre Laforcade*

132
Personalisation in MOOCs: A Critical Literature Review
Ayse Saliha Sunar, Nor Aniza Abdullah, Su White, and Hugh Davis

An Interactive Source Code Visualisation Plug-in for the MindXpres Presentation Platform
Reinout Roels, Paul Meștereagă, and Beat Signer

Customizable Learning Scenarios for Students' Mobile Devices in Large University Lectures: A Next Generation Audience Response System
Daniel Schön, Melanie Klinger, Stephan Kopf, Thilo Weigold, and Wolfgang Effelsberg

Learning Arabic Through Play Games on Tabletop Surface Computers in Early Childhood
Pantelis M. Papadopoulos, Zeinab Ibrahim, and Andreas Karatsolis

How Revealing Rankings Affects Student Attitude and Performance in a Peer Review Learning Environment
Pantelis M. Papadopoulos, Thomas Lagkas, and Stavros N. Demetriadis

Quality in Distance Learning Courses: A Longitudinal Survey of Teacher Training in Federal Programs
Gianna Oliveira Bogossian Roque, Gilda Helena Bernardino de Campos, and Camila Sousa Santos

Verifying the Stability and Sensitivity of Learning Analytics Based Prediction Models: An Extended Case Study
Dirk T. Tempelaar, Bart Rienties, and Bas Giesbers

Gamification Behind the Scenes: Designing a Software Engineering Course
Kay Berkling

Project-Based Learning Emphasizing Open Resources and Student Ideation: How to Raise Student Awareness of IPR?
Ville Isomöttönen and Tommi Kärkkäinen

Continuous Assessment in the Evolution of a CS1 Course: The Pass Rate/Workload Ratio
Maria J. Blesa, Amalia Duch, Joaquim Gabarró, Jordi Petit, and Maria Serna

A Flipped Classroom with and Without Computers
William T. Tarimo, Fatima Abu Deeb, and Timothy J. Hickey

Computational Thinking: A Tool to Motivate Understanding in Elementary School Teachers
Erni Marlina Saari, Peter Blanchfield, and Gail Hopkins
Analyzing the Academic Approaches to Learning of Portuguese College Students Through the Psychometric Study of a Questionnaire .......................... 365
  D. Oliveira, G. Esgalhado, and N.M. Garcia

Adapting Learning Paths in Serious Games: An Approach Based on Teachers’ Requirements ................................................................. 376
  Javier Melero, Naima El-Kechai, Amel Yessad, and Jean-Marc Labat

MOOCs in Higher Education Magazines: A Content Analysis of Internal Stakeholder Perspectives ................................................................. 395
  Manuel León Urrutia, Steve White, and Su White

Textbook Gamification: Methods and Technologies .............................. 406
  Susanne Friedemann, Klaus P. Jantke, and Lisa Baumbach

Teacher Technology Use: An Interplay of Learning Preference,
Teaching Philosophy, and Perception of Technology ......................... 425
  Georgia L. Bracey and Mary L. Stephen

A Process Using Ontology to Automate the Operationalization of Pattern-Based Learning Scenarios ................................................................. 444
  Zeyneb Tadjine, Lahcen Oubahssi, Claudine Piau-Toffolon, and Sébastien Iksal

The Impact of Rubric-Based Peer Assessment on Feedback Quality in Blended MOOCs ........................................................ ............. 462
  Ahmed Mohamed Fahmy Yousef, Usman Wahid, Mohamed Amine Chatti, Ulrik Schroeder, and Marold Wosnitza

Quantifying and Evaluating Student Participation and Engagement in an Academic Facebook Group ................................................................. 486
  Thanos Hatziapostolou, Jorgo Gellci, Dimitris Dranidis, and Marina Ntika

Can Playing Massive Multiplayer Online Role Playing Games (MMORPGs) Improve Older Adults’ Socio-Psychological Wellbeing? ........... 504
  Fan Zhang and David Kaufman

A 21st Century Teaching and Learning Approach to Computer Science Education: Teacher Reactions ................................................................. 523
  Jake Rowan Byrne, Lorraine Fisher, and Brendan Tangney

Seamless Integration of Knowledge Management and Professional Learning in PRiME ................................................................. 541
  Mohamed Amine Chatti, Hendrik Thüis, Christoph Greven, and Ulrik Schroeder
Learners’ Cultures in the Context of Education ................................................. 558
   *Thomas Richter and Heimo H. Adelsberger*

A Remotely Controllable Thermo-Vacuum Facility for Testing Small Payloads .......................................................... 581
   *A. Paolozzi, I. Ciufolini, C. Paris, and G. Sindoni*

Supporting Deaf Adult Learners Training in Computer Literacy Classes ........ 598
   *George G. Ng’ethe, Edwin H. Blake, and Meryl Glaser*

Developing an E-Book-Based Learning Platform Toward Higher Education for All .................................................. 618
   *Masumi Hori, Seishi Ono, Kazutsuna Yamaji, Shinzo Kobayashi, Toshihiro Kita, and Tsuneo Yamada*

**Author Index** ........................................................................................................ 635