## Contents

### Full Papers

**Weather-it Missions: A Social Network Analysis Perspective of an Online Citizen Inquiry Community** ............................................................... 3  
*Maria Aristeidou, Eileen Scanlon, and Mike Sharples*

**Developing Mathematical Thinking with Scratch: An Experiment with 6th Grade Students** ................................................................. 17  
*Luis Alberto Calao, J. Moreno-León, Heidy Ester Correa, and Gregorio Robles*

**Facilitate Sharing of Training Experience by Exploring Behavior Discovery in Trainees Traces** ......................................................... 28  
*Olivier Champalle, Karim Sehaba, and Alain Mille*

**Using Educational Analytics to Improve Test Performance** ................................. 42  
*Owen Corrigan, Alan F. Smeaton, Mark Glynn, and Sinéad Smyth*

**Evaluation of Expert-Based Q-Matrices Predictive Quality in Matrix Factorization Models** ............................................................. 56  
*Guillaume Durand, Nabil Belacel, and Cyril Goutte*

**Moving Through MOOCS: Pedagogy, Learning Design and Patterns of Engagement** ................................................................. 70  
*Rebecca Ferguson, Doug Clow, Russell Beale, Alison J. Cooper, Neil Morris, Siân Bayne, and Amy Woodgate*

**In-App Reflection Guidance for Workplace Learning** ............................. 85  
*Angela Fessl, Gudrun Wesiak, Verónica Rivera-Pelayo, Sandra Feyertag, and Viktoria Pammer*

**Training Workers for Improving Performance in Crowdsourcing Microtasks** ................................................................. 100  
*Ujwal Gadiraju, Besnik Fetahu, and Ricardo Kawase*

**Engaging Teaching Professionals in Design for Online Learning** ............................... 115  
*Marianne Georgsen*

**Beyond Delivery Modes and Apps: A Case Study on Mobile Blended Learning in Higher Education** ........................................ 127  
*Christian Glahn, Marion R. Gruber, and Olga Tartakovski*
SafeChild: An Intelligent Virtual Reality Environment for Training
Pedestrian Safety Skills .................................................. 141
   Yecheng Gu, Sergey Sosnovsky, and Carsten Ullrich

What Should I Do Next? Adaptive Sequencing in the Context of Open
Social Student Modeling .................................................. 155
   Roya Hosseini, I-Han Hsiao, Julio Guerra, and Peter Brusilovsky

Improving Automatic Affect Recognition on Low-Level Speech Features
in Intelligent Tutoring Systems ........................................... 169
   Ruth Janning, Carlotta Schatten, and Lars Schmidt-Thieme

Lessons Learned from Creating a Mobile Version of an Educational Board
Game to Increase Situational Awareness ................................ 183
   Roland Klemke, Shalini Kurapati, Heide Lukosch, and Marcus Specht

MOOC Video Interaction Patterns: What Do They Tell Us? .............. 197
   Nan Li, Łukasz Kidziński, Patrick Jermann, and Pierre Dillenbourg

Comparing Two CbKST Approaches for Adapting Learning Paths
in Serious Games ............................................................. 211
   Javier Melero, Naïma El-Kechaï, and Jean-Marc Labat

Towards an Integrated Specialized Learning Application (ISLA) to Support
High Functioning ASD Children in Mathematics Learning ................ 225
   Aydée Liza Mondragon, Roger Nkambou, and Pierre Poirier

Automatic Tagging of Learning Objects Based on Their Usage in Web
Portals ............................................................................. 240
   Katja Niemann

On Modeling Learning Communities ........................................ 254
   Zinayida Petrushyna, Ralf Klamma, and Milos Kravcik

Studying Teacher Orchestration Load in Technology-Enhanced
Classrooms: A Mixed-Method Approach and Case Study ................ 268
   Luis P. Prieto, Kshitij Sharma, and Pierre Dillenbourg

Coflection – Combining Mutual Support and Facilitation in Technology
Enhanced Learning ............................................................. 282
   Michael Prilla and Carmen Wolf

Towards Reading Session-Based Indicators in Educational Reading
Analytics ........................................................................... 297
   Madjid Sadallah, Benoît Encelle, Azze-Eddine Maredj, and Yannick Prié

Stand Tall and Raise Your Voice! A Study on the Presentation Trainer .... 311
   Jan Schneider, Dirk Börner, Peter van Rosmalen, and Marcus Specht
Displaying Teacher’s Gaze in a MOOC: Effects on Students’ Video Navigation Patterns

Kshitij Sharma, Patrick Jermann, and Pierre Dillenbourg

Reflexive Learning, Socio-cognitive Conflict and Peer-assessment to Improve the Quality of Feedbacks in Online Tests.

Franck Silvestre, Philippe Vidal, and Julien Broisin

A Learning Analytics Approach to Correlate the Academic Achievements of Students with Interaction Data from an Educational Simulator

Mehrhoosh Vahdat, Luca Oneto, Davide Anguita, Mathias Funk, and Matthias Rauterberg

VisEN: Motivating Learner Engagement Through Explorable Visual Narratives

Bilal Yousuf and Owen Conlan

Short Papers

ICT Supported Learning Rises Math Achievement in Low Socio Economic Status Schools

Roberto Araya, Raúl Gormaz, Manuel Bahamondez, Carlos Aguirre, Patricio Calfucura, Paulina Jaure, and Camilo Laborda

Potentials of Gamification in Learning Management Systems: A Qualitative Evaluation

Jan Broer and Andreas Breiter

Investigating Self-directed Learning Dimensions: Adapting the Bouchard Framework

Inge de Waard, Agnes Kukulska-Hulme, and Mike Sharples


Raffaele Di Fuccio, Michela Ponticorvo, Andrea Di Ferdinando, and Orazio Miglino

A Framework to Design Educational Mobile-Based Games Across Multiple Spaces

Carmen Fernández-Panadero, Mar Pérez-Sanagustín, Abelardo Pardo, Raquel M. Crespo García, and Carlos Delgado Kloos

Predicting Results from Interaction Patterns During Online Group Work

Alvaro Figueira
Teachers’ Perceptions About the HANDSON MOOC: A Learning Design Studio Case .......................................................... 420
     Muriel Garreta-Domingo, Davinia Hernández-Leo, Yishay Mor, and Peter Sloep

Learners’ Attitudes Toward Using Wikis and Forums for Collaboration on Case Problems ........................................... 428
     Andri Ioannou, Anthony R. Artino, and Scott W. Brown

Students’ Deep and Surface Approach: Links to Interaction in Learning Environments .................................................. 435
     Maria Margeti and Manolis Mavrikis

Grounding Serious Game Design on Scientific Findings: The Case of ENACT on Soft Skills Training and Assessment .......... 441
     Davide Marocco, Daniela Pacella, Elena Dell’Aquila, and Andrea Di Ferdinando

Informal Learning in Online Knowledge Communities: Predicting Community Response to Visitor Inquiries ............. 447
     Nicolae Nistor, Mihai Dascălu, Lucia Larise Stavarache, Yvonne Serafin, and Ștefan Trăuşan-Matu

     Nicolae Nistor, Michael Derntl, and Ralf Klamma

Towards an Intelligent Tutoring System for Logical Reasoning in Multiple Contexts ......................................................... 460
     Roger Nkambou, Janie Brisson, Clauvice Kenfack, Serge Robert, Pamela Kissok, and Ange Tato

The Value of Self-tracking and the Added Value of Coaching in the Case of Improving Time Management ....................... 467
     Viktoria Pammer, Marina Bratic, Sandra Feyertag, and Nils Faltin

Screen or Tabletop: An Eye-Tracking Study of the Effect of Representation Location in a Tangible User Interface System .......... 473
     Mina Shirvani Boroujeni, Sébastien Cuendet, Lorenzo Lucignano, Beat Adrian Schwendimann, and Pierre Dillenbourg

Evolution of Interests in the Learning Context Data Model .......... 479
     Hendrik Thiis, Mohamed Amine Chatti, Roman Brandt, and Ulrik Schroeder
Efficient Generation of High-Quality Multilingual Subtitles for Video Lecture Repositories ................................................................. 485
Juan Daniel Valor Miró, Joan Albert Silvestre-Cerdà, Jorge Civera, Carlos Turró, and Alfons Juan

A Model to Support Monitoring for Classroom Orchestration in a Tablet-Based CSCL Activity ......................................................... 491
Patrick Wang, Pierre Tchounikine, and Matthieu Quignard

Resource Access Patterns in Exam Preparation Activities ...................... 497
Sabrina Ziebarth, Irene-Angelica Chounta, and H. Ulrich Hoppe

Demo Papers

ReaderBench: An Integrated Cohesion-Centered Framework .................... 505
Mihai Dascalu, Larise L. Stavarache, Philippe Dessus, Stefan Trausan-Matu, Danielle S. McNamara, and Maryse Bianco

KnowBrain: An Online Social Knowledge Repository for Informal Workplace Learning ................................................................. 509
Sebastian Dennerlein, Dieter Theiler, Peter Marton, Patricia Santos Rodriguez, John Cook, Stefanie Lindstaedt, and Elisabeth Lex

Communicate! — A Serious Game for Communication Skills — ............... 513
Johan Jeuring, Frans Grosfeld, Bastiaan Heeren, Michiel Hulsbergen, Richta IJntema, Vincent Jonker, Nicole Mastenbroek, Maarten van der Smagt, Frank Wijmans, Jananne Wolters, and Henk van Zeijts

Bucket-Server: A System for Including Teacher-Controlled Flexibility in the Management of Learning Artifacts in Across-Spaces Learning Situations ................................................................. 518
Juan A. Muñoz-Cristóbal, Juan I. Asensio-Pérez, Alejandra Martínez-Monés, Luis P. Prieto, Iván M. Jorrín-Abellán, and Yannis Dimitriadis

Using Video Visualizations in Open edX to Understand Learning Interactions of Students ......................................................... 522
Héctor J. Pijeira Díaz, Javier Santofimia Ruiz, José A. Ruipérez-Valiente, Pedro J. Muñoz-Merino, and Carlos Delgado Kloos

Presentation Trainer: Polishing Your Communication Skills .................. 526
Jan Schneider, Dirk Börner, Peter van Rosmalen, and Marcus Specht
Unit Testing Maths: Automated Assessment of Mathematic Exercises
   Edgar Seemann

User-Modelled Ambient Feedback for Self-regulated Learning
   Bernardo Tabuenca, Dirk Börner, Marco Kalz, and Marcus Specht

Augmented Reality-Based Simulations Embedded in Problem Based Learning Courses
   Diego Villarán, María Blanca Ibáñez, and Carlos Delgado Kloos

Poster Papers

Managing Time Through a Self-regulated Oriented ePortfolio for Undergraduate Students
   Aikaterini Alexiou and Fotini Paraskeva

Detecting Sarcasm from Students’ Feedback in Twitter
   Nabeela Altrabsheh, Mihaela Cocea, and Sanaz Fallahkhair

Motivation and Engagement in MOOCs: How to Increase Learning Motivation by Adapting Pedagogical Scenarios?
   Aicha Bakki, Lahcen Oubahssi, Chihab Cherkaoui, and Sebastien George

A Literature Review of Serious Games for Intellectual Disabilities
   Ana R. Cano, Álvaro J. García-Tejedor, and Baltasar Fernández-Manjón

Towards Teacher-Managed Deployment and Integration of Non-SaaS Tools in Virtual Learning Environments
   Rafael Cano-Parra, Eduardo Gómez-Sánchez, Miguel L. Bote-Lorenzo, and José A. González-Martínez

Validating Gamification Mechanics and Player Types in an E-learning Environment
   Borja Gil, Iván Cantador, and Andrzej Marczewski

Integrating Teacher and Student Workspaces in a Technology-Enhanced Mathematics Lecture
   Giorgi Goguadze

Using Cloud Computing for E-assessment Process Integration
   Fahima Hajjej, Yousra Bendaly Hlaoui, and Leila Jemni Ben Ayed

Querying Repositories of OER Descriptions: The Challenge of Educational Metadata Schemas Diversity
   Hiba Hajri, Yolaine Bourda, and Fabrice Popineau
Contents

Linked Data-Enabled Gamification in EPUB 3 for Educational Digital Textbooks ................................................................. 587
   Pieter Heyvaert, Ruben Verbogh, Erik Mannens, and Rik Van de Walle

Authoring Tools Supporting Novice Teachers Identifying Student Problems . . . 592
   Pablo Llinás, Estefanía Martín, Isidoro Hernán-Losada,
   Miguel A. Gutiérrez, Gill Clough, and Anne Adams

Collaborative Learning Orchestration Using Smart Displays and Personal Devices ............................................................... 596
   Kalpani Manathunga, Davinia Hernández-Leo, Jaime Caicedo,
   Jhon Jairo Ibarra, Francisco Martinez-Pabon,
   and Gustavo Ramirez-Gonzalez

Project-Based Learning: Methodology and Assessment Learning Technologies and Assessment Criteria ......................................... 601
   Iratxe Menchaca, Mariluz Guenaga, and Josu Solabarrieta

Patterns of Practice and Design: Towards an Agile Methodology for Educational Design Research.................................................. 605
   Yishay Mor, John Cook, Patricia Santos, Tamsin Treasure-Jones,
   Raymond Elferink, Debbie Holley, and James Griffin

Teaching Syllogistics Through Gamification and Interactive Proofs ............. 609
   Peter Øhrstrøm, Ulrik Sandborg-Petersen, Steinar Thorvaldsen,
   and Thomas Ploug

Combining Virtual Reality and Relaxation Techniques to Improve Attention Levels in Students from an Initial Vocational Qualification Program .................................................................................................. 613
   Helena Olmos, Soledad Gómez, Mariano Alcañiz, Manuel Contero,
   M. Puig Andrés-Sebastià, and Norena Martín-Dorta

Investigating Learners’ Views of Assessment Types in Massive Open Online Courses (MOOCs) ...................................................... 617
   Tina Paphathoma, Canan Blake, Doug Clow, and Eileen Scanlon

Designing and Evaluating Personalised Courses with LAMS: The Designer Perspective .................................................................... 622
   Eva Papazoi, Kyparisia Papanikolaou, and Evangelia Gouli

Reflective TEL: Augmenting Learning Tools with Reflection Support .......... 626
   Michael Prilla and Oliver Blunk

Visualizing Students’ Performance in the Classroom: Towards Effective F2F Interaction Modelling .................................................. 630
   Samara Ruiz, Maite Urretavizcaya, Isabel Fernández-Castro,
   and Juan-Miguel López-Gil
Supporting Learning Analytics for Informal Workplace Learning with a Social Semantic Infrastructure ........................................ 634
Adolfo Ruiz-Calleja, Sebastian Dennerlein, Vladimir Tomberg, Kai Pata, Tobias Ley, Dieter Theiler, and Elisabeth Lex

Boosting the Learning Process with Progressive Performance Prediction .... 638
Carlos Villagra-Arnedo, Francisco J. Gallego-Durán, Rafael Molina-Carmona, and Faraón Llorens-Largo

Creating and Sharing Knowledge Through Experiences: A Case Study with Ach so! in Healthcare Education ................................. 642
Marjo Virnes, Jukka Purma, Merja Bauters, and Teemu Leinonen

Author Index ........................................................................................................................................ 647
Design for Teaching and Learning in a Networked World
10th European Conference on Technology Enhanced Learning, EC-TEL 2015, Toledo, Spain, September 15-18, 2015, Proceedings
Conole, G.; Klobučar, T.; Rensing, C.; Konert, J.; Lavoué, É. (Eds.)
2015, XX, 649 p. 208 illus., Softcover
ISBN: 978-3-319-24257-6