



## Proceedings of the 18th European Conference on e-Learning

Aalborg University
Copenhagen, Denmark
7-8 November 2019



Edited by Rikke Ørngreen, Mie Buhl and Bente Meyer



## **Proceedings of the**

# 18th European Conference on e-Learning ECEL 2019

**Hosted By** 

Aalborg University Copenhagen, Denmark

7-8 November 2019

**Edited by** 

Rikke Ørngreen, Mie Buhl and Bente Meyer

Copyright The Authors, 2019. All Rights Reserved.

No reproduction, copy or transmission may be made without written permission from the individual authors.

#### **Review Process**

Papers submitted to this conference have been double-blind peer reviewed before final acceptance to the conference. Initially, abstracts were reviewed for relevance and accessibility and successful authors were invited to submit full papers. Many thanks to the reviewers who helped ensure the quality of all the submissions.

#### **Ethics and Publication Malpractice Policy**

ACPIL adheres to a strict ethics and publication malpractice policy for all publications – details of which can be found here: <a href="http://www.academic-conferences.org/policies/ethics-policy-for-publishing-in-the-conference-proceedings-of-academic-conferences-and-publishing-international-limited/">http://www.academic-conferences.org/policies/ethics-policy-for-publishing-in-the-conference-proceedings-of-academic-conferences-and-publishing-international-limited/</a>

#### **Conference Proceedings**

The Conference Proceedings is a book published with an ISBN and ISSN. The proceedings have been submitted to a number of accreditation, citation and indexing bodies including Thomson ISI Web of Science and Elsevier Scopus.

Author affiliation details in these proceedings have been reproduced as supplied by the authors themselves.

The Electronic version of the Conference Proceedings is available to download from DROPBOX <a href="http://tinyurl.com/ecel19">http://tinyurl.com/ecel19</a> Select Download and then Direct Download to access the Pdf file. Free download is available for conference participants for a period of 2 weeks after the conference.

The Conference Proceedings for this year and previous years can be purchased from <a href="http://academic-bookshop.com">http://academic-bookshop.com</a>

E-Book ISBN: 978-1-912764-41-9

E-Book ISSN: 2048-8645

Book version ISBN: 978-1-912764-42-6

Book Version ISSN: 2048-8637

Published by Academic Conferences and Publishing International Limited Reading UK 44-118-972-4148

www.academic-conferences.org

### Contents

Paper Title	Author(s)	Page no.
Preface		vi
Committee		vii
Biographies		х
Research papers		
EFL Blended Learning Course: Implementing a Discussion Forum to Enhance Students' Self-Direction	Dina Adinda, Pascal Marquet and Thaddee Ntihinyuzwa	1
The Impact of m-Learning on Business Students' Performance	Amani Albinali and Allam Hamdan	11
Online Environments for Supporting Learning Analytics in the Flipped Classroom: A Scoping Review	Muriel Algayres and Evangelia Triantafyllou	16
Visual Representations Supporting Implementation of A K12 Programming Curriculum in Open and Democratic Educational Institutions	Benjamin Brink Allsopp and Morten Misfeldt	24
The Impact of Cultural Familiarity on Students' Social Media Usage in Higher Education	Dhuha Al-Shaikhli, Li Jin, Alan Porter, Andrzej Tarczynski, Dilshod Ibragimov, Deneze Bektasheva and Mikhail Shpirko	32
Digital Literacy in Social Media: A Case Study	Rafaela Andreou and Iolie Nicolaidou	40
A Hybrid Fuzzy DEMATEL-AHP/VIKOR Method for LMS Selection	Sarra Ayouni, Leila Jamel Menzli, Fahima Hajjej and Mohamed Maddeh	47
Developing Creative Online Learning Communities: A Case Study of Student Perceptions	Wendy Barber	59
Situating Resilience, Grit and Growth Mindset as Constructs of Social Presence in the Fully Online Learning Community Model (FOLC)	Wendy Barber, Roland van Oostveen and Elizabeth Childs	65
Soft-Digital Skills in Higher Education Curricula	Susana Bastos, Helena De Oliveira, Moreira Manuel Silva and Liliana Azevedo	70
Traineeships in Jordan: Mutual Engagement, Joint Enterprise and Shared Repertoire Between Companies and Students	Naoual Benamar and Rikke Magnussen	78
Student Engagement, Mobile Technologies, and Changing Curriculum Delivery	Jeffrey Boehm and Neil Glen	86
Supporting Blended Learning in ESP Courses: Switching Between "Online", "Offline" and "Onstage"	Pavel Brebera and Zuzana Bezdíčková	93
Computational Thinking Utilizing Visual Arts, or Maybe the Other way Around	Mie Buhl	102
Plagiarism Tendencies and Contributing Factors in e- Learning Environments: Rwandan Higher Education Context	Jean Claude Byungura, Henrik Hansson, Kamuzinzi Masengesho and Thashmee Karunaratne	109

Paper Title	Author(s)	Page no.
Current Challenges in Gamification Identified in Empirical Studies	Daniel Cermak-Sassenrath	119
'Breaking bad': Overcoming Barriers Preventing Higher Education Faculty From Offering Quality Blended Learning Programs	Paula Charbonneau-Gowdy and Manuel Herrera	128
Using VLEs to Offer Higher Education Students Choice and Differentiation in Learning Activities: Micro-Pathway Learning Design Implementation and Opportunities	Simon Cross	137
Experience of Using Project-Based Learning in the URFU Hypermethod e-Learning System	Lyudmila Daineko, Yury Davy, Viola Larionova and Inna Yurasova Ural Federal University, Ekaterinburg, Russia	145
Effects of Blending Digital Games into Traditional Lecture-Based Learning on University Students' Programming Learning Achievement	Kannika Daungcharone	151
Students' Learning Experience Within a Blended Learning Environment in a Higher Education Institution in Ghana	Emmanuel Freeman, Ahmed Antwi- Boampong and Odeneho Baffoe- Kodom Agyemang	160
Serious Digital Games to Further Human Rights Education	Sonja Gabriel	169
Flipped Classroom: A Renewal Opportunity or a Pedagogical Cul-De-Sac?	Dorina Gnaur	176
Using Augmented Reality for Teaching Pupils With Special Educational Needs	Vojtěch Gybas, Kateřina Kostolányová and Libor Klubal	185
The use of Visualisations and Video Productions in Online Game-Based Learning	Heidi Hautopp and Stine Ejsing-Duun	192
Methodology for Developing Algorithmic Thinking in Pre-school Education	Tatiana Havlásková, Zuzana Homanová, Kateřina Kostolányová and Zdeněk Barteček	200
Online Learning of Reflective Journal Writing in Tertiary Education	Karl Holm, Jovita Yeung, Mimi Yu, Rodney Ho, Yvonne Loong and Felix Chao	207
Using H5P Interactive Teaching Aids to Solve Problems	Zuzana Homanova, Tatiana Prextova, Daniel Tran and Katerina Kostolanyova	214
On the Role of Unplugged Programming in K-12 Education	Niklas Humble, Peter Mozelius and Lisa Sällvin	224
A Comparative Study on Language Teachers' Perceptions of ICT Self-Efficacy	Ilknur Istifci	231
e-Learning and Classroom Learning Activities	Antonín Jančařík	239
Good Questions in e-Learning Environments	Kateřina Jančaříková and Jarmila Novotná	247
Practical Application of MicroLearning in Education of Future Teachers	Tomas Javorcik and Radim Polasek	254

Paper Title	Author(s)	Page no.
Problem Based Learning: A Facilitator of Computational Thinking	Tanja Svarre Jonasen and Sandra Burri Gram-Hansen	260
Finding an Effective Data Mining Algorithm for Automatic Detection of Learning Styles	Ioannis Karagiannis and Maya Satratzemi	268
Formal Education as Lifelong Learning for Working Professionals: A Case Study	Thashmee Karunaratne and Pooyeh Mobini	276
Towards an Agile-Based Process Model for Effective Teacher Training on LMS	Thashmee Karunaratne, Helena Zhemchugova, Jean Claude Byungura and Ulf Olsson	284
Assessing Programming Concepts in the Visual Block- Based Programming Course for Primary School Students	Siu-Cheung Kong and Yi-Qing Wang	294
Investigating Participants' Collaborative Patterns in a MOOC for Teacher Professional Development	Nikolaos Koukis and Athanassios Jimoyiannis	303
Students Behavioural Patterns on the National Open Education Platform	Viola Larionova, Andrey Sheka and Stanislaus Vasilyev	313
A Critique of Blended Learning: Examples From an Undergraduate Psychology Program	Maria Limniou and Caroline Hands	320
The Contribution of Social Media on Heritage Experience: A Case Study of Samchuk Community and Old Market District, Suphanburi	Thanya Lunchaprasith and Sarakard Pasupa	329
Strategic use of Social Media in e-Learning	Iwona Lupa-Wójcik	340
The Role of Accessibility and Usability in e-Learning Websites for Students With Disabilities: Can Policies Help?	Motlhabane Jacobus Maboe, Mariki Eloff and Marthie Schoeman	349
Adding Narrative to Gamification and Educational Games With Generic Templates	Sebastian Mader, Niels Heller and François Bry	360
Digital Literacy and Course Design	Gunver Majgaard and Regina Lamscheck-Nielsen	369
Application of Digital Tools for the Development of Entrepreneurship Competencies	Josef Malach and Nataliia Kysil	378
Gamification for Promoting Acceptance of an Online Learning Environment Among Teachers	Flavio Manganello and Francesca Pozzi	387
Towards an ICT Enabler for Enhancing Non-Cognitive Skills in a Lifelong Learning Setting	Pooyeh Mobini and Thashmee Karunaratne	396
Technology-Based Education and Students' Performance: Literature Review	Maryam Murad, Anjum Razzaque and Allam Hamdan	406
e-Design Education Using a 3D Printer Based on Design Thinking at Primary School	Kazuhiro Muramatsu, Sonam Wangmo and Yeshi Wangchuk	412
Interaction and Group Work in Blended Synchronous Higher Education: Exploring Effects on Learning Outcomes, Satisfaction and Retention	Lena-Maria Öberg, Christina Amcoff Nyström, Stefan Hrastinski , Peter Mozelius and Jörgen Söderback	420
Using YouTube Analytics to Investigate Instructional Video Viewing Patterns	Michael O'Brien, Darina Slattery and John Walsh	428
Dissemination of Distance Teaching Practice	Anders Øgaard	437

Paper Title	Author(s)	Page no.
Investigating the use of Moodle at a PBL University: Design Factors and Experiences	Rikke Ørngreen, Sara Paash Knudsen, Ditte Kolbæk and Rune Hagel Skaarup Jensen	444
Meeting Online to Reduce Carbon Emissions and to Emphasise Values in Life and at Work	Rikke Ørngreen, Dorina Gnaur and Birgitte Henningsen	453
Understanding the Urgency and Complexities of the Energy Transition Through Serious Gaming	Tania Ouariachi and Wim Elving	461
Using OneNote as an ePortfolio: Promoting Experiential Learning and Self-Regulation	Maria Luisa Perez Cavana	467
Feasible Ways to Personal Meaning Mapping in Out- Of-School Contexts?	Morten Raahauge Philipps, Bjørn Friis Johannsen, Thomas Dyreborg Andersen, Henrik Levinsen and Kristian Kildemoes Foss	476
Investigating the Voice of Customers for M-Learning Application Quality	Arunotai Pongwat	486
Learning Gains of Process Oriented Guided Inquiry Learning in an Online Course Setting	Saptarshi Purkayastha, Mounika Guntu, Radhika Ravindran and Asha Kiranmayee Surapaneni	495
E-Learning and Learner Knowledge Sharing Quality: Ahlia University as a Case Study	Sameh Reyad, Sherine Badawi, Layla Faisal Alhalwachi, Allam Hamdan Anjum Razzaque and Abdalmuttaleb Al-Sartawi	505
Examining the Compatibility of Students in Distributed Pair Programming	Maya Satratzemi, Despina Tsompanoudi, Stelios Xinogalos and Leonidas Karamitopoulos	510
Towards Integration of Deep Gamification Into Formal Educational Settings	Heinrich Söbke and Jörg Londong	519
Policies to Implement Smart Learning in Higher Education	Maria José Sousa and Miguel Sousa	526
A Teaching-Learning Blended-Course Model Support Tracking Student Bahaviour	Gridaphat Sriharee	533
Automated Scaffolding and Feedback for Proof Construction: A Case Study	Korbinian Staudacher, Sebastian Mader and François Bry	542
A Study of Investigating Pre-Service Teachers' Attitudes Towards Using e-Learning Resources	Ming-Jiun Sung and Liza Lee	551
Structures for Mapping Learning Content	Andreas Lindenskov Tamborg, Jonas Dreyøe, Lisbeth Liv Nøhr, Mia Onsvig Gregersen and Benjamin Brink Allsopp	559
Effects of Personalized Learning With Preferred Digital Media Types on Learning Motivation	Jirapipat Thanyaphongphat	567
Effects of Digital Learning on Students' Learning Achievement in Learning Computer Programming	Krittawaya Thongkoo	574
Collaborative Online International Learning: A Pedagogical Intervention to Enrich Students' Learning	Anisa Vahed and Steven Levine	579

Paper Title	Author(s)	Page no.
Threshold Concepts in Online Music Education: Transforming Conservatoire Training	Dario van Gammeren and Aleksander Szram	588
Assessments Used in an Open Distance e-Learning Environment to Promote Self-Directed Learning	Dalize van Heerden and Leila Goosen	593
How can Flipped Classroom Activities Support Teacher Motivation?	Tone Vold and Ole Jørgen Ranglund	603
Cross-Location and Cross-Disciplinary Collaborative Prototyping Using Virtual Reality in Higher Education	Fei Yu and Md. Saifuddin Khalid	609
Phd Research Papers		619
A Thematic and Grounded Theory Understanding of Faculty Adoption of Blended Learning in Higher Education	Ahmed Antwi-Boampong, Emmanuel Freeman and Hannah Muat	621
Estimating Student Workload During the Learning Design of Online Courses: Creating a Student Workload Calculator	Nicola Beer	629
Experts' Insights About Blended Learning Implementation: What Teacher Attributes are Relevant?	Bram Bruggeman, Jo Tondeur, Bram Pynoo and Katrien Struyven	639
Work In Progress Papers		649
Incarcerated Students' Support Services in Open Distance e-Learning: A Mixed Methods Protocol	Caroline Agboola	651
Challenges in Designing e-Learning for Educators With Limited Time and Access	Lillian Buus and Michal Pilgaard	655
Digital Literacy in a Sociomaterial Perspective	Michael Jensen	659
Meaningful Communication and Active Learning in Online Courses	Amy Sheng Chieh Leh and Amanda Burk	662
The Climb to the Blended Learning Peak	Nuria Lopez	665
Developing an Implementation Framework for Adaptive Learning: A Case Study Approach	Victoria Mirata and Per Bergamin	668
Breaking Sequentiality: An Interactive MOOC	Maria Cecilia Reyes and Guglielmo Trentin	674
Choose Your own Adventure: Self-Directed Adult Learning and Assessment	Holly Rick and Karla Phlypo	680
YouTube as an Instrument of Learning in Higher Education: Opportunities and Challenges	Dmitry Rudenkin and Veronika Grushevskaya	684
Students From Central Asia in Russian Universities: The Social Media as a Tool of Adjustment	Galina Savchuk, Olga Iakimova and Anastasia Yufereva	687
Utilisation of Open and Distance eLearning Students Support Services by Postgraduate Students in an Open and Distance eLearning Institution	Omari Shabani and Kefiloe Maboe	691
Future Challenges for Academic-Industry Value Co- Creation Through Lifelong Learning	Carina Sjödin, Leo Hatvani and Anders Olsson	695
Blended Learning Sessions to Improve job Interview Skills	Michiko Toyama and Yoshitaka Yamazaki	698