

12th IADIS International Conference on Cognition and Exploratory Learning in Digital Age (CELDA 2015)

Co-located with WWW/Internet 2015 and Applied Computing 2015

Dublin, Ireland
24 – 26 October 2015

Editors:

Demetrios G. Sampson
J. Michael Spector

Dirk Ifenthaler
Pedro Isaias

ISBN: 978-1-5108-1621-3

Printed from e-media with permission by:

Curran Associates, Inc.
57 Morehouse Lane
Red Hook, NY 12571



Some format issues inherent in the e-media version may also appear in this print version.

Copyright© (2015) by the International Association for Development of the Information Society (IADIS)
All rights reserved.

Printed by Curran Associates, Inc. (2016)

For permission requests, please contact
the International Association for Development of the Information Society (IADIS)
at the address below.

International Association for Development of the Information Society (IADIS)
Rua Sao Sebastiao Da Pedreira
No. 100, 30, 1050-209
Lisbon, Portugal

Phone: 351 21 3151373
Fax: 351 21 3151244

secretariat@iadis.org

Additional copies of this publication are available from:

Curran Associates, Inc.
57 Morehouse Lane
Red Hook, NY 12571 USA
Phone: 845-758-0400
Fax: 845-758-2633
Email: curran@proceedings.com
Web: www.proceedings.com

TABLE OF CONTENTS

FOREWORD	xi
PROGRAM COMMITTEE	xiii
KEYNOTE LECTURE	xv

FULL PAPERS

TOWARDS A METADATA SCHEMA FOR CHARACTERIZING LESSON PLANS SUPPORTED BY VIRTUAL AND REMOTE LABS IN SCHOOL SCIENCE EDUCATION <i>Panagiotis Zervas, Eleftheria Tsourlidaki, Sofoklis Sotiriou and Demetrios G. Sampson</i>	3
DIVULGING PERSONAL INFORMATION WITHIN LEARNING ANALYTICS SYSTEMS <i>Dirk Ifenthaler and Clara Schumacher</i>	11
TAGALONG: INFORMAL LEARNING FROM A REMOTE COMPANION WITH MOBILE PERSPECTIVE SHARING <i>Scott W. Greenwald, Mina Khan, Christian D. Vazquez and Pattie Maes</i>	19
ACCOUNTING PROFESSOR QUALIFICATION IN DIGITAL AGE: A PERCEPTION STUDY ON BRAZILIAN PROFESSORS <i>Maria Ivanice Vendruscolo and Patricia Alejandra Behar</i>	28
SUPERVISORY AND DIGITAL LITERACY PRACTICES IN POSTGRADUATE SUPERVISION: A CASE STUDY <i>Sarjit Kaur, Gurnam Kaur Sidhu, Lee Lai Fong and Leele Suzana Jamian</i>	35
POSTGRADUATE STUDENTS' LEVEL OF DEPENDENCE ON SUPERVISORS IN COPING WITH ACADEMIC MATTERS AND USING DIGITAL TOOLS <i>Gurnam Kaur Sidhu, Sarjit Kaur, Lim Peck Choo and Chan Yuen Fook</i>	43
TOWARDS GATHERING INITIAL REQUIREMENTS OF DEVELOPING A MOBILE SERVICE TO SUPPORT INFORMAL LEARNING AT CULTURAL HERITAGE SITES <i>Alaa Alkhafaji, Sanaz Fallahkhair and Mihaela Cocea</i>	51
THE DEVELOPMENT AND EMPOWERMENT OF MATHEMATICAL ABILITIES: THE IMPACT OF PENCIL AND PAPER AND COMPUTERISED INTERVENTIONS FOR PRESCHOOL CHILDREN <i>Maria Lidia Mascia, Mirian Agus, Maria Chiara Fastame, Maria Pietronilla Penna, Eliana Sale and Eliano Pessa</i>	59
THE RELATIONSHIP AMONG SELF-REGULATED LEARNING, PROCRASTINATION, AND LEARNING BEHAVIORS IN BLENDED LEARNING ENVIRONMENT <i>Masanori Yamada, Yoshiko Goda, Takeshi Matsuda, Hiroshi Kato and Hiroyuki Miyagawa</i>	67

SOUND AS AFFECTIVE DESIGN FEATURE IN MULTIMEDIA LEARNING – BENEFITS AND DRAWBACKS FROM A COGNITIVE LOAD THEORY PERSPECTIVE <i>Anke Königshulte</i>	75
THE WILL, SKILL, TOOL MODEL OF TECHNOLOGY INTEGRATION: ADDING PEDAGOGY AS A NEW MODEL CONSTRUCT <i>Gerald Knezek and Rhonda Christensen</i>	84
CHALLENGES OF BIG DATA IN EDUCATIONAL ASSESSMENT <i>David C. Gibson, Mary Webb and Dirk Ifenthaler</i>	92
EVALUATING THE INTERACTIVE LEARNING TOOL SIMREAL+ FOR VISUALIZING AND SIMULATING MATHEMATICAL CONCEPTS <i>Said Hadjerrouit</i>	101
PREDICTING THE RISK OF ATTRITION FOR UNDERGRADUATE STUDENTS WITH TIME BASED MODELLING <i>Kevin EK Chai and David Gibson</i>	109
INSIDE THE DIGITAL WILD WEST: HOW SCHOOL LEADERS BOTH ACCESS AND AVOID SOCIAL MEDIA <i>Laurie Corrigan and Lorayne Robertson</i>	117
MORE THAN A BROKER: A CASE STUDY OF KNOWLEDGE MOBILIZATION IN A DIGITAL ERA <i>Lorayne Robertson</i>	125
HOW DO HIGH SCHOOL STUDENTS PREFER TO LEARN? <i>Leila A. Mills and Putthachat Angnakoon</i>	133
PROCESS MODELS IN E-LEARNING – BOTTOM-UP OR TOP-DOWN? <i>Sarah Sahl and Alke Martens</i>	140
A MODEL FOR UBIQUITOUS SERIOUS GAMES DEVELOPMENT FOCUSED ON PROBLEM BASED LEARNING <i>Sandro Oliveira Dorneles, Cristiano André da Costa and Sandro José Rigo</i>	147
BLENDED INTERACTION FOR AUGMENTED LEARNING-AN ASSISTIVE TOOL FOR COGNITIVE DISABILITY <i>Suman Deb, Subir Saha and Paritosh Bhattacharya</i>	155
STUDIES RELATING TO COMPUTER USE OF SPELLING AND GRAMMAR CHECKERS AND EDUCATIONAL ACHIEVEMENT <i>Odette Bourjaili Radi</i>	163
DESIGN THINKING AND METACOGNITIVE REFLECTIVE SCAFFOLDS: A GRAPHIC DESIGN-INDUSTRIAL DESIGN TRANSFER CASE STUDY <i>Chien-Sing Lee and Kuok-Shoong Daniel Wong</i>	173
DEVELOPING A DISPOSITION FOR SOCIAL INNOVATIONS: AN AFFECTIVE-SOCIO-COGNITIVE CO-DESIGN MODEL <i>Chien-Sing Lee and Kuok-Shoong Daniel Wong</i>	180
TECHNOLOGY GOES BUSH: USING MOBILE TECHNOLOGIES TO SUPPORT LEARNING IN A BUSH KINDER PROGRAM <i>Jennifer Masters and Leanne Grogan</i>	187
MOVING IN TIME TO A DIGITAL TUNE: A CRISIS IN OUR IDENTITY? <i>Breda Mc Taggart</i>	195

EXAMINING THE EFFECTS OF FIELD TRIPS ON SCIENCE IDENTITY <i>Leila A. Mills and William Katzman</i>	202
EDUCATION ON THE CLOUD: RESEARCHING STUDENT-CENTERED, CLOUD-BASED LEARNING PROSPECTS IN THE CONTEXT OF A EUROPEAN NETWORK <i>Hercules Panoutsopoulos, Karl Donert, Panos Papoutsis and Ioannis Kotsanis</i>	209
UNIVERSITY AND FLIPPED LEARNING TIC&DIL PROJECT: FRAMEWORK AND DESIGN <i>Stefania Pinnelli and Andrea Fiorucci</i>	217
TECHNOLOGY-ENHANCED PEDAGOGICAL FRAMEWORK FOR COLLABORATIVE CREATIVITY: ANALYSES OF STUDENTS' PERCEPTION <i>Manoli Pifarré, Laura Martí and Andreea Cujba</i>	225
COLLABORATIVE PROBLEM SOLVING IN SHARED SPACE <i>Lin Lin, Leila A. Mills and Dirk Ifenthaler</i>	233
A SOCIAL NETWORKS IN EDUCATION <i>Blanka Klimova and Petra Poulouva</i>	240

SHORT PAPERS

THE WORK OF CHILDREN: SEEKING PATTERNS IN THE DESIGN OF EDUCATIONAL TECHNOLOGY <i>Michael Eisenberg and Zack Jacobson-Weaver</i>	249
TOWARDS SUPPORTING COMMUNICATION IN RELATIONSHIP AND SEXUALITY EDUCATION THROUGH A VLE <i>Marion McGinn and Inmaculada Arnedillo-Sánchez</i>	253
THE DEVELOPMENT OF COMPUTATIONAL THINKING IN THE CONTEXT OF SCIENCE AND ENGINEERING PRACTICES: A SELF-REGULATED LEARNING APPROACH <i>Erin E. Peters-Burton, Timothy J. Cleary and Anastasia Kitsantas</i>	257
A PROGRAM COMPLEXITY METRIC BASED ON VARIABLE USAGE FOR ALGORITHMIC THINKING EDUCATION OF NOVICE LEARNERS <i>Minori Fuwa, Mizue Kayama, Hisayoshi Kunimune, Masami Hashimoto and David K. Asano</i>	262
APPS. ACCESSIBILITY AND USABILITY BY PEOPLE WITH VISUAL DISABILITIES <i>Eva María Olmedo-Moreno and Adrian López-Delgado</i>	267
COMPARING LEARNER COMMUNITY BEHAVIOR IN MULTIPLE PRESENTATIONS OF A MASSIVE OPEN ONLINE COURSE <i>Silvia Elena Gallagher and Timothy Savage</i>	271
DEVELOPING ADOLESCENTS' RESISTANCE TO SEXUAL COERCION THROUGH ROLE-PLAYING ACTIVITIES IN A VIRTUAL WORLD <i>Marion McGinn and Inmaculada Arnedillo-Sánchez</i>	275
HOW CAN ONE LEARN MATHEMATICAL WORD PROBLEMS IN A SECOND LANGUAGE? A COGNITIVE LOAD PERSPECTIVE <i>Jase Moussa-Inaty, Mark Causapin and Timothy Groombridge</i>	279

<p>ONTOLOGICAL RELATIONS AND THE CAPABILITY MATURITY MODEL APPLIED IN ACADEMIA <i>Jerônimo Moreira de Oliveira, Laura Gómez Campoy and Lilian Vilarino</i></p>	283
<p>COGNITIVE CURATIONS OF COLLABORATIVE CURRICULA <i>Amy S. Ackerman</i></p>	288
<p>HOW OLDER ADULTS USE VIRTUAL PERSONAL LEARNING NETWORKS TO SUPPORT INFORMAL, SELF-DIRECTED LIFELONG LEARNING GOALS: A RESEARCH PROGRAM DESCRIPTION <i>Dirk Morrison</i></p>	293
<p>SIGNIFICANT CHANGES IN THE ENVIRONMENT AND IN TEACHING METHODOLOGY OF A E-LEARNING DISCIPLINE TO AVOID DROPOUTS IN A COURSE AT THE FEDERAL INSTITUTE <i>Gustavo Prado Oliveira, Päivi Aarreniemi-Jokipelto and Ricardo Soares Boaventura</i></p>	297
<p>E-FUNDI AS A VIABLE WAY TO DO E-MENTORING <i>George A. Lotter</i></p>	301
<p>HEALTH CARE: ROLE OF ICT IN AUTISM <i>Hafiza Maimoona Shahid, Sohaib Tariq, Imran Saleem, Muhammad Adil Butt, Arslan Tariq and Iqra Tariq</i></p>	305
<p>INVESTIGATION INTO UNDERGRADUATE INTERNATIONAL STUDENTS’ USE OF DIGITAL TECHNOLOGY AND THEIR APPLICATION IN FORMAL AND INFORMAL SETTINGS <i>Rebecca Strachan and Sanaa Aljabali</i></p>	309
<p>E-LEARNING SYSTEM FOR LEARNING VIRTUAL CIRCUIT MAKING WITH A MICROCONTROLLER AND PROGRAMMING TO CONTROL A ROBOT <i>Atsushi Takemura</i></p>	313
<p>A STUDY ON THE EFFECTS OF THE RUBRIC ON CONCURRENT DISCUSSION IN WEB-BASED ENVIRONMENT <i>Jaewon Jung</i></p>	319
<p>BRAIN 3M – A NEW APPROACH TO LEARNING ABOUT BRAIN, BEHAVIOR, AND COGNITION <i>Ping Li, Lauren E. Chaby, Jennifer Legault and Victoria A. Braithwaite</i></p>	323
<p>LEARNER-CONTENT-INTERFACE AS AN APPROACH FOR SELF-RELIANT AND STUDENT-CENTERED LEARNING <i>Robin Nicolay, Bastian Schwennigcke, Sarah Sahl and Alke Martens</i></p>	327
<p>CACHE-CACHE COMPARISON FOR SUPPORTING MEANINGFUL LEARNING <i>Jingyun Wang and Seiji Fujino</i></p>	332
<p>CREATING INNOVATIVE, STUDENT-CENTERED PROJECTS WITH APP SMASHING <i>Aimee M. Brenner and Janel S. Hauser</i></p>	337
<p>SMART LEARNING: ARE WE READY FOR IT? <i>Petra Poulova and Blanka Klimova</i></p>	341
<p>A FUNDAMENTAL STUDY FOR EFFICIENT IMPLEMENTAION OF ONLINE COLLABORATIVE ACTIVITIES IN LARGE-SCALE CLASSES <i>Ryuichi Matsuba, Yusei Suzuki, Shin-Ichiro Kubota and Makoto Miyazaki</i></p>	347
<p>ENCOURAGING USER PARTICIPATION IN BLENDED LEARNING: COURSE REORIENTATION <i>Alea M. Fairchild</i></p>	351

ASSESSING PROBLEM SOLVING COMPETENCE THROUGH INQUIRY-BASED TEACHING IN SCHOOL SCIENCE EDUCATION <i>Panagiotis Zervas, Sofoklis Sotiriou, Rüdiger Tiemann and Demetrios G. Sampson</i>	355
MUSIC AS ACTIVE INFORMATION RESOURCE FOR PLAYERS IN VIDEO GAMES <i>Marian Nagorsnick and Alke Martens</i>	359
MAKING CONSTRUALS AS A NEW DIGITAL SKILL FOR LEARNING <i>Meurig Beynon, Russell Boyatt, Jonathan Foss, Chris Hall, Elizabeth Hudnott, Steve Russ, Erkki Sutinen, Hamish Macleod and Piet Kommers</i>	363
A SEMANTIC BASIS FOR MEANING CONSTRUCTION IN CONSTRUCTIVIST INTERACTIONS <i>Farshad Badie</i>	369

REFLECTION PAPERS

EXPLORING TECHNOLOGY SUPPORTED COLLABORATIVE AND COOPERATIVE GROUP FORMATION MECHANISMS <i>Mia Čarapina and Ivica Botički</i>	377
DEVELOPING SELF-REGULATED LEARNERS THROUGH COLLABORATIVE ONLINE CASE DISCUSSION IN EDUCATIONAL PSYCHOLOGY <i>Patricia P. Willems and Alyssa Gonzalez-DeHass</i>	379
STUDENT'S PERSPECTIVES ON TAKING COURSES ONLINE, BLENDED, OR A COMBINATION <i>Catherine C. Schifter, Dirk Ifenthaler and Daniel White</i>	381
AN INNOVATIVE INTERDISCIPLINARY APPROACH TO PROVIDING INTERNSHIPS FOR COLLEGE SENIORS <i>Kathy Fuller</i>	383
FOSTERING 21ST CENTURY SKILLS THROUGH GAME DESIGN AND DEVELOPMENT <i>Gregory P. Garvey</i>	385
DEVELOPMENT OF CRITICAL THINKING SELF-ASSESSMENT SYSTEM USING WEARABLE DEVICE <i>Yasushi Gotoh</i>	387

AUTHOR INDEX