International Conference on e-Learning 2019

Held at the Multi-Conference on Computer Science and Information Systems (MCCSIS 2019)

Porto, Portugal
16-19 July 2019

Editors:
Miguel Baptista
Pedro Isaías
Piet Kommers
Luís Rodrigues

ISBN: 978-1-5108-9240-8
TABLE OF CONTENTS

FOREWORD xi
PROGRAM COMMITTEE xv
KEYNOTE LECTURE xix
WORKSHOP xx

FULL PAPERS

THREE-DIMENSIONAL COLLABORATIVE VIRTUAL ENVIRONMENTS TO ENHANCE LEARNING MATHEMATICS
Rosa Maria Reis 3

DO STUDENT RESPONSES DECREASE IF TEACHERS KEEP ASKING QUESTIONS THROUGH STUDENT RESPONSE SYSTEMS: A QUANTITATIVE RESEARCH
Paul Lam, Carmen K. M. Lau, Kevin Wong and Chi Him Chan 11

A SEQUENTIAL ANALYSIS OF TEACHING BEHAVIORS TOWARD THE USE OF BLACKBOARD LEARNING MANAGEMENT SYSTEM
Yu-Hang Li, Chien-Yuan Su and Yue Hu 19

THE IMPACT OF E-LEARNING ON LEARNER KNOWLEDGE SHARING QUALITY
Sameh M. Reyad, Anjum Razzaque, Sherine Badawi, Allam Hamdan, Reem Khamis and Abdalmuttaleb Al-Sartawi 26

ASSESSING OPEN-BOOK-OPEN-WEB EXAM IN HIGH SCHOOLS: THE CASE OF A DEVELOPING COUNTRY
Mary Ann Barbour El Rassi 33

CRISS: A CLOUD BASED PLATFORM FOR GUIDED ACQUISITION, EVALUATION AND CERTIFICATION OF DIGITAL COMPETENCE
Igor Balaban, Danijel Filipovic and Marko Peras 41

LEARNING READINESS WHEN SHARING KNOWLEDGE WHILE E-LEARNING
Anjum Razzaque, Allam M. Hamdan, Mukhtar Al-Hashimi and Esra S. Aldahean 49

LEARNING RELATED DEVICE USAGE OF GERMAN AND INDIAN STUDENTS
Joachim Griesbaum, Tessy Thadathil and Sophie März 57

5G TECHNOLOGY AND ITS APPLICATIONS TO MUSIC EDUCATION
Adriano Baratè, Goffredo Haus, Luca A. Ludovico, Elena Pagani and Nello Scarabottolo 65
<table>
<thead>
<tr>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>TEACHER ATTITUDES REGARDING THE USE OF GAME-BASED PROGRAMMING TOOLS IN K-12 EDUCATION</td>
<td>73</td>
</tr>
<tr>
<td>Chien-Yuan Su, Yue Hu and Yu-Hang Li</td>
<td></td>
</tr>
<tr>
<td>THE DYNAMICS OF SUCCESSFUL TEAMS IN A MASSIVE OPEN ONLINE COURSE</td>
<td>80</td>
</tr>
<tr>
<td>Majd Alomar</td>
<td></td>
</tr>
<tr>
<td>MODELS, PROCESS AND TOOL TO ASSIST COOPERATIVE SCENARIZATION OF DISTANT LEARNING MODULES</td>
<td>87</td>
</tr>
<tr>
<td>Christophe Marqueszaà, Patrick Etcheverry, Pantxika Dagorret, Philippe Lopistéguy, Thierry Nodenot and Marta Toribio Fontenla</td>
<td></td>
</tr>
<tr>
<td>O TEU MESTRE- A DISTANCE LEARNING PLATFORM (RESULTS)</td>
<td>95</td>
</tr>
<tr>
<td>Daniel Azevedo and Paula Morais</td>
<td></td>
</tr>
<tr>
<td>COMPARING THREE INPUT DEVICES FOR SKETCHING ASSIGNMENTS</td>
<td>105</td>
</tr>
<tr>
<td>In E-EXAMS IN COMPUTER SCIENCE</td>
<td></td>
</tr>
<tr>
<td>Suhas Govind Joshi and Live Årmot Brastad</td>
<td></td>
</tr>
<tr>
<td>STUDENTS' TEAM-LEARNING INSPIRES CREATIVITY</td>
<td>116</td>
</tr>
<tr>
<td>Sayed Jawwad, Mukhtar Al-Hashimi, Anjum Razzaque and Allam Hamdan</td>
<td></td>
</tr>
<tr>
<td>FLIPPED CLASSROOM ASSESSMENT: A LEARNING PROCESS APPROACH</td>
<td>123</td>
</tr>
<tr>
<td>Paul Lam, Carmen K. M. Lau and Chi Him Chan</td>
<td></td>
</tr>
<tr>
<td>OPEN PROFESSIONAL DEVELOPMENT OF MATH TEACHERS THROUGH AN ONLINE COURSE</td>
<td>131</td>
</tr>
<tr>
<td>Anna Brancacchio, Massimo Esposito, Marina Marchisio, Matteo Sacchet and Claudio Pardini</td>
<td></td>
</tr>
<tr>
<td>THE MODERATING ROLE OF M-LEARNING ACTIVITIES IN THE RELATIONSHIP BETWEEN STUDENTS’ SOCIAL CAPITAL AND KNOWLEDGE SHARING</td>
<td>139</td>
</tr>
<tr>
<td>Marya Ali Al-Ansari, Allam Hamdan, Anjum Razzaque, Sameh Reyad and Abdalmuttaleb Al-Sartawi</td>
<td></td>
</tr>
<tr>
<td>E-LEARNING MODEL FOR TRAINING OF DRIVERS IN TRAFFIC BASED ON FREQUENT MISTAKES ON THE PRACTICAL EXAM</td>
<td>147</td>
</tr>
<tr>
<td>Goran Jovanov, Jovica Vasiljevic, Nemanja Jovanov, Dejan Antic and Djordje Vranjes</td>
<td></td>
</tr>
<tr>
<td>E-LEARNING - EVOLUTION, TRENDS, METHODS, EXAMPLES, EXPERIENCE</td>
<td>155</td>
</tr>
<tr>
<td>Eugenia Smyrnova-Trybulska</td>
<td></td>
</tr>
<tr>
<td>IMPACT OF EDUCATIONAL TECHNOLOGY ON STUDENTS’ PERFORMANCE</td>
<td>163</td>
</tr>
<tr>
<td>Maryam Murad, Anjum Razzaque, Allam Hamdan and Anji Benhamed</td>
<td></td>
</tr>
<tr>
<td>DESIGN AND IMPLEMENTATION OF AN ENGLISH LESSON BASED ON HANDWRITING RECOGNITION AND AUGMENTED REALITY IN PRIMARY SCHOOL</td>
<td>171</td>
</tr>
<tr>
<td>Junyan Xu, Sining He, Haozhe Jiang, Yang Yang and Su Cai</td>
<td></td>
</tr>
<tr>
<td>E-LEARNING AND STUDENTS’ PERFORMANCE: GENDER PERSPECTIVE</td>
<td>179</td>
</tr>
<tr>
<td>Maryam Murad, Anjum Razzaque, Allam Hamdan and Anji Benhamed</td>
<td></td>
</tr>
<tr>
<td>LIASCRIPT: A DOMAIN-SPECIFIC-LANGUAGE FOR INTERACTIVE ONLINE COURSES</td>
<td>186</td>
</tr>
<tr>
<td>André Dietrich</td>
<td></td>
</tr>
<tr>
<td>INSTRUCTIONAL DESIGN TO “TRAIN THE TRAINERS”: THE START@UNITO PROJECT AT THE UNIVERSITY OF TURIN</td>
<td>195</td>
</tr>
<tr>
<td>Marina Marchisio, Matteo Sacchet and Daniela Salusso</td>
<td></td>
</tr>
</tbody>
</table>
DEVELOPMENT OF AN ONLINE TOOL BASED ON CFD AND OBJECT-ORIENTED PROGRAMMING TO SUPPORT TEACHING FLUID MECHANICS
Concepción Paz, Eduardo Suárez, Adrián Cabarcos and Christian Gil

A CASE STUDY EXAMINING THE COST MEASUREMENTS IN PRODUCTION AND DELIVERY OF A MASSIVE OPEN ONLINE COURSE (MOOC) FOR TEACHING THE RELATIONSHIP BETWEEN HUMAN HEALTH AND CLIMATE CHANGE
Edward Meinert, Abrar Alturkistani, Kris A Murray, Philippe Sabatier and Josip Car

INCLUSIVE DIGITAL LEARNING THROUGH SERIOUS GAMES: A CLIPPING FOR INCLUSION
Paola Escudeiro, Dirceu Teixeira, Bruno Galasso, Nuno Neto and Flávio Costa

GAMIFICATION OF IN-CLASSROOM DIAGRAM DESIGN FOR SCIENCE STUDENTS
Andreas Mallas and Michalis Xenos

“GAMING IN EDUCATION AND E-LEARNING: MOCK-TRIALS, MOCK-ELECTIONS AND CRISIS-SIMULATIONS FOR POLITICAL SCIENCES AND COMMUNICATIONS COURSES”
Marco Rimanelli and Krzysztof Gurba

SHORT PAPERS

RESEARCH ON CHANGE AND GROWTH OF STUDENTS AND TEACHERS EXPERIENCED PROBLEM BASED LEARNING
Kyungwon Chang and Seonyoung Jang

TWENTY-FIRST CENTURY INTERVIEWING FOR TWENTY-FIRST CENTURY JOBS. ARE WE PREPARING OUR STUDENTS FOR TODAY’S JOB MARKET?
John R. Lax and Ioannis Pantzalis

ONLINE GRADUATE DEGREES: PERCEPTIONS OF MOROCCAN UNIVERSITY STUDENTS
Karima Slamti and Layla Ajrouh

DEVELOPMENT OF AN ONLINE LABORATORY: APPLICATION FOR THE CHARACTERIZATION OF NTC TEMPERATURE SENSOR
Ameur Ikhlef, Boubekeur Boukhezzar and Nora Mansouri

DIGITAL COMPETENCE IN THE INITIAL TRAINING OF THE TELESECUNDARIA TEACHER. CASE STUDY
Anna Luz Acosta Aguilera, Rubén Edel Navarro and Yadira Navarro Rangel

LEARNING STRATEGIES THAT CONTRIBUTE TO ACADEMIC EFFICIENCY IN RELATION TO THE BUSINESS SCHOOL STUDENT’S LEARNING STYLES
Maria de Jesús Araiza Vázquez, Mayra Elizabeth Brosig Rodríguez and Claudia Ivonne Niño Rodriguez

SOCIAL LEARNING NETWORKING DIGITAL AFFORDANCE DESIGN
Ben Chang and Rotua Zendrato

SECURITY VULNERABILITIES IN MODERN LMS
Alexei Scerbakov, Frank Kappe and Nikolai Scerbakov
EFFECTS OF EPISTEMIC PREPARATIVE ACTIVITIES ON STUDENTS’ UNDERSTANDING IN A FLIPPED CLASSROOM
Wakako Fushikida, Hiroki Oura and Ryo Yoshikawa

DEVELOPMENT OF PROJECT-BASED LEARNING (PBL) IN BLENDED LEARNING MODE FOR THE ACQUISITION OF DIGITAL COMPETENCE
Olga Arranz-Garcia and Vidal Alonso Secades

PROFUTURO, A SOCIAL INITIATIVE TO IMPROVE EDUCATION WITH E-LEARNING ANALYTICAL TOOLS
Vidal Alonso Secades, Olga Arranz-Garcia and Alfonso Jose Lopez Rivero

DESIGN OF A NEW SCALE TO MEASURE THE LEARNER EXPERIENCE IN E-LEARNING SYSTEMS
Yassine Safsouf, Khalifa Mansouri and Franck Poirier

APPLICATION OF ALPHA AND BETA BRAINWAVES ON E-LEARNING PROJECTS IN TERMS OF EXPANDING CRITICAL AND COGNITIVE SKILLS: AN EXPERIMENTAL APPROACH
Miltiadis Staboulis and Irene Lazaridou

REFLECTION PAPERS

THE UAV SIMULATION COMPLEX FOR OPERATOR TRAINING
Oleksandr Volkov, Mykola Komar, Kateryna Synytsya and Dmytro Volosheniuk

E-LEARNING ASSISTED DRAMATIZATION FOR COMMUNICATIVE LANGUAGE ABILITY AND COLLABORATIVE LEARNING
Young Mee Kim

GENERATING GRAPHS IN VIRTUAL REALITY
Simon So

EXPERIENTIAL LEARNING WITH SANSAR PLATFORM – A CONCEPT OF MILITARY TRAINING
Małgorzata Gawlik-Kobylińska and Paweł Maciejewski

A CRITIQUE OF JACQUES ELLUL (FRENCH PHILOSOPHER) ON TECHNOLOGY
George A Lotter

MAKING VIRTUAL CLASSROOMS OF GOOGLE PLATFORM MORE REAL USING TRANSPARENT INTERACTIVE SCREEN-BOARD (tiSb-Albania)
Romeo Teneqexhi and Loreta Kuneshka

FROM STYLE 0 TO STYLE E-0. COGNITIVE STYLES IN E-LEARNING
Maria Rosa Pinto Lobo

CAN WE DESIGN AND TEACH TO IMPROVE STUDENT PERCEPTIONS OF “COHORT”?
Tom Whitford
POSTERS

MIXING EDUCATIONAL TECHNIQUES: E-LEARNING, FLIPPED CLASSROOM AND THE USE OF SOCIAL NETWORKS. AN EXPERIENCE IN A UNIVERSITY SETTING
Roberto Espejo Mohedano and Arturo Gallego Segador

USING REN’PY AS A DIGITAL STORYTELLING TOOL TO ENHANCE STUDENTS’ LEARNING
Hsiu-Ling Chen and Yun-Chi Chuang

USING AN ONLINE FORUM TO ENHANCE THE LEARNING OF SPANISH GRAMMAR AS A SECOND LANGUAGE
Jiyoung Yoon

DOCTORAL CONSORTIA

ORGANISATION OF KNOWLEDGE FROM TRACES OF HUMAN LEARNING
Baba Mbaye

TECHNOLOGY-CONFIDENT TEACHERS ENABLING DEEP E-LEARNING PEDAGOGIES
Roy Rozario

AUTHOR INDEX