17th International Conference on
Cognition and Exploratory Learning in Digital Age
CELDA 2020

CONFERENCE PROGRAM

**IMPORTANT NOTICE:** listed times are in GMT+0 (Lisbon Time), you can check your timezone at [https://greenwichmeantime.com/time-zone/gmt-plus-0/](https://greenwichmeantime.com/time-zone/gmt-plus-0/) (you can use the provided URL to insert your location and see your time in relation to GMT+0).

**Wednesday 18th, November 2020**

09:45-10:00 Session O – Opening Session

**OPENING SESSION**

Prof. Demetrios G. Sampson, Dirk Ifenthaler and Pedro Isaías

10:00-11:00 Session KL – Keynote Presentation

“WHAT HAVE WE LEARNED FROM 6 YEARS OF IMPLEMENTING LEARNING ANALYTICS AMONGST 100,000+ STUDENTS?”

Professor Bart Rienties, Head of Academic Professional Development, Institute of Educational Technology, The Open University, UK

11:05-12:35 Session FSP 18.1

Cognition in Education // Educational Psychology

**Chair:** Dirk Ifenthaler

- **TOO MANY DULL WORDS EXCEED THE LIMITS OF VISUAL PERCEPTION: THE EFFECTS OF CLUTTER AND COLOUR ON LEARNING** (F153)
  - Olivia Foulds

- **DIGITAL TWIN: DECREASING THE COGNITIVE LOAD BY USING INDUSTRY 4.0 SIMULATION** (S035)
  - Lukas Heschl, Thomas Dilger, Reinhard Bernsteiner and Christian Ploder

- **A KIT OF APPS TO IMPROVE AND ASSESS EXECUTIVE FUNCTIONS AND WORKING MEMORY CAPACITY IN PRESCHOOLERS** (S185)
  - Sabrina Panesi, Laura Freina and Lucia Ferlino

- **INTEGRATING MEDIA DIDACTIC COMPETENCES IN PSYCHOLOGY COURSES OF TEACHER EDUCATION** (S105)
  - Sarah Lukas, Anna-Lisa Max and Holger Weizel

11:05-12:35 Session FP 18.2

Collaborative Learning // Student-centered Learning

**Chair:** Lynette Drevin

- **PROBLEM-BASED PROJECTS: A CATALYST FOR ENHANCING STUDENTS’ SELF-DIRECTED LEARNING IN AN INFORMATION SECURITY COURSE** (F170)
  - Marietjie Havenga and Lynette Drevin

- **RELATIONSHIP BETWEEN LEARNING BEHAVIORS AND SOCIAL PRESENCE IN ONLINE COLLABORATIVE LEARNING** (F182)
  - Yufan Xu, Yuta Tamiguchi, Yoshiko Goda, Atsushi Shimada and Masanori Yamada

- **STUDENTS ENGAGING IN MATHEMATICAL PROBLEM-SOLVING THROUGH COMPUTATIONAL THINKING AND PROGRAMMING ACTIVITIES: A SYNTHESIS OF TWO OPPOSITE EXPERIENCES** (F034)
  - Said Hadjerrouit and Nils Kristian Hansen

12:35-14:00 Lunch Break
14:00-16:00 Session FP 18.3
Collaborative Learning
Chair: Lynette Drevin

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14:00-16:20 Session FSP 18.4
Technology, Learning and Expertise // Student-centered Learning
Chair: Carlos Capelo

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16:00-16:15 Coffee Break

16:15-18:35 Session FSP 18.5
Technology, Learning and Expertise
Chair: Josef Guggemos

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**Thursday 19th, November 2020**

08:35-10:45 Session FSP 19.1
Assessment of Exploratory Technologies
Chair: Nils Kristian Hansen

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08:15-10:45 Session FP 19.2
Assessment of Exploratory Learning Approaches // Technology, Learning and Expertise
Chair: Sarah Lukas

- PROTOTYPING A RETROSPECTIVE REVIEW SUPPORT FUNCTION FOR A FILL-IN WORKBOOK SYSTEM (F101)
  Koosuke Abe, Tetsumi Tamaka and Kazunori Matsumoto
- A GRAPHIC ORGANIZER FOR SUPPORTING SUMMARY WRITING IN WEB-BASED INVESTIGATIVE LEARNING (F160)
  Oriko Harada and Akihito Kashihara
- THE ANALYSIS OF PISA TEST 2018 ON STUDENT PERCEPTION OF READING OBJECTIVE, HOW IS INDONESIAN STUDENTS? (F073)
  Safiari Safaari, Asrijanity Astrijanty, Rahmawati Rahmawati and Bagas Hary Prakoso
- LEARNING ANALYTICS TO EVALUATE THE EFFECTIVENESS OF HIGHER EDUCATION STUDENT FAILURE PREVENTION (F084)
  Francesco Floris, Marina Marchisio, Matteo Sacchet and Sergio Rabellino
- GEOGEBRABOOK: PRELIMINARY RESEARCH WITH PRIMARY SCHOOL STUDENTS (F112)
  Sara Cruz, Marco Bento and José Alberto Lencastre

10:45-11:00 Break

11:00-13:00 Session FP 19.3
Pedagogical Issues Related with Learning Objects // Educational Psychology
Chair: Sharon Mitchell

- INFORMATION SECURITY EDUCATION SYSTEM IN SECONDARY SCHOOL AND ASSESSMENT OF THE LEVEL OF ANXIETY OF SCHOOLCHILDREN (F060)
  Mikhail I. Bocharov, Irina V. Simonova, Tatyana I. Bocharova and Anna V. Zaika
- LEARNING TO USE A DIGITAL WORKBENCH TO DEVELOP COMPETENCE-BASED TESTS IN VOCATIONAL EDUCATION: GUIDED OR EXPLORATIVE? (F056)
  Josef Buchner, Anne-Cathrin Vonarx, Peter Pfänder and Michael Kerres
- A TAGSET FOR UNIVERSITY STUDENTS’ EDUCATIONAL GOALS (F082)
  Felix Weber and Elen Le Foll
- BECAUSE IT IS FUN: INVESTIGATING MOTIVES OF FAKE NEWS SHARING WITH EXPLORATORY GAME QUESTS (F150)
  Patrick Jost

13:00 – 13:45 Break

13:45-16:00 Session FSRP 19.4
Technology, Learning and Expertise
Chair: Matteo Sacchet

- NEED OF EDUCATIONAL TECHNOLOGY TOOLS FOR COGNITIVE DEVELOPMENT IN INTELLECTUALLY DISABLED CHILDREN (F108)
  Savitha Korattikkara Kumaran and Renumol Vempalively Govindapillai
- A HEALTHCARE SYSTEM TO SUPPORT WELL-BEING OF MIGRANTS: THE PROJECT PREVENZIONE 4.0 (S139)
  Veronica Rossano, Teresa Roselli and Flora Berni
- IMPLEMENTING AN ONLINE TRAINING PROGRAMME IN PRECISION MEDICINE FOR PRIMARY CARE PROFESSIONALS: A MULTI-METHOD APPROACH (S050)
  Sharon Mitchell, Evrirr Jaccard, Regula Cardinaux, Prune Collombet, Jacques Cornuz, Gérard Waebber, Idris Guessous and Sissel Guttormsen
- APPLYING LAYERED GRAPHS TO EVIDENCE CENTERED DESIGN BASED SERIOUS GAMES ASSESSMENT (S208)
  Jan K. Argasiński and Ivona Grabska-Gradzińska
- CONSIDERATIONS AND REFLECTIONS ON GLOBALIZATION OF RESEARCH-SUPPORTED BEST PRACTICES AND QUALITY STANDARDS FOR ONLINE EDUCATION AND DIGITAL LEARNING (R029)
  Yaping Gao
- THE ROLE OF GENDER IN LEARNERS’ DIGITAL INTERACTION PREFERENCES (S015)
  Muhittin Şahin and Dirk Ifenthaler

16:00-16:15 Break

16:15-18:05 Session FSP 19.5
Student-centered Learning // Technology, Learning and Expertise
Chair: Said Hadjerrouit

- WORK ON EXPRESSION-COMMUNICATION SKILLS AT THE UNIVERSITY BY PLAYING LORD OF THE RINGS ONLINE (S058)
  Christine Bolou-Chiaravalli
- IMMERSIVE LEARNING FOR TEACHER EDUCATION (S094)
  Eric Tarantini
- IMPLEMENTING INTERDISCIPLINARY CONTENT AND NOVEL TEACHING METHODS AT AN EGYPTIAN UNIVERSITY: A CASE REPORT (S077)
  Ly Latter, Johannes Schrumpf, Felix Weber, Ahmed M. H. Abdel fattah and Stefan Schneider
- MAKE USE OF SELFIE DATA TO GENERATE TARGETED RECOMMENDATIONS FOR SCHOOL TEAMS: TWO INSTRUMENTS (S103)
  Irina Dvoretskaya and Alexander Uvarov
- DIGITAL SUPPORT FOR THE PRE-STUDENT PHASE IS SUCCESSFUL (F080)
  Pia Drews and Alke Martens
### Friday 20th, November 2020

**08:45-10:45 Session FP 20.1**  
Educational Psychology // Pedagogical Issues Related with Learning Objects  
*Chair: Peter Holowka*

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**10:45-11:00 Break**

### 11:00-12:50 Session FSP 20.2  
Assessing Progress of Learning in Complex Domains // Learner Communities and Peer-support  
*Chair: Dirk Ifenthaler*

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**12:50 Best Paper Awards Ceremony and Closing Session**  
*Profs. Demetrios G. Sampson, Dirk Ifenthaler and Pedro Isaias*