International Conference on Information Communication Technologies in Education

ICICTE 2016

Conference Programme

7-9 July, Rhodes, Greece

Welcome from the Chair of the Steering Committee

It is with great pleasure that I welcome you to the beautiful island of Rhodes for the International Conference on ICT in Education 2016. As always we bring together researchers and practitioners from all around the world, examining the use of ICT in all aspects of education, from schools, colleges, universities, workplace learning and adult/continuing education.

We have a full range of plenary sessions and workshops, all of which will make for an interesting and engaging scientific programme. in addition, we also have our usual full social programme – an opportunity to meet new and old friends, building on the ICICTE network that circles the globe and has led to so many great projects and great friendships. in a year in which international tensions seem to be ever higher, and in which countries are increasingly isolating themselves, it is more important than ever to meet and build links with colleagues from around the world and bridge those international barriers.

We look forward to welcoming our Keynote Speaker, Dr Tannis Morgan, Associate Dean, Centre for Teaching, Learning & Innovation, Justice Institute of British Columbia, Canada, who is going to present on future considerations in the adoption of educational technologies, as well as mediating our Philosopher's café.

As always, I must offer my heartfelt thanks to all of those who make this conference a success. in particular these include our conference Director Nancy Pyrini and our Communications Co-ordinator Ġorġ Mallia, for their tireless work to organise and promote the conference. We also thank Greg Anderson, Linda Morris and Costas Tsolakidis for the review and editing process for the scientific program and proceedings, and to all the Scientific Committee who give their time freely to review submissions to the conference.

Thanks also go once again to our registrar Matt Hickling, George Sarrigeorgiou for all his help organising the social events, and generally helping out with anything and everything, and Marie Louise Kold, both for her photography, and for the unique pieces of artwork which she creates each year for the conference awards. These are one-of-a-kind, special pieces, and yet another aspect which makes ICICTE stand out from other conferences.

I would also like to thank the administration and finance team at Southampton Solent University for helping us to keep the registration process as smooth as possible, and also to all the Publications and Promotions Committee for helping spread the word about the conference. Finally, I must thank our sponsors, *Oracle Systems*, for providing financial support for the conference, which is greatly appreciated, and also *Quality Matters,* for once more offering the QM workshop, which is a great additional benefit to participants.

Once again I look forward to a great ICICTE event, and to meeting you all over the course of the conference.

Chris Barlow
Chair, Steering Committee,
ICICTE 2016, Rhodes

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Thanks to

The 2016 Steering Committee wishes to express its gratitude for their support to:
- *The International Journal of Learning and Information Technologies* for its constant support of ICICTE.
- Marie Louise Kold for the art she creates for the ICICTE awards and for the ICICTE 2016 backdrop motif.
- Our sponsors, *Oracle Systems,* for providing financial support for the conference.
- The Scientific Committee for its professional and efficient approach to the editing process.
- The Publications and Promotions Committee for its indefatigable efforts to promote the conference.

WEDNESDAY

APPLYING THE QUALITY MATTERS RUBRIC WORKSHOP
Hall II Kamiros
Facilitator: Evangeline (Litsa) Varonis, Hiram College, United States of America. QM Facilitator and Master Reviewer

09:00 – 09:45   Welcome, Introductions, Hands-on Activity, About Quality Matters

09:45 – 10:15   The QM Rubric
                             Rubric Puzzle Activity

10:15 – 11:05   Course Worksheet
                             Strategies for Applying the QM Rubric
                             Begin at the Beginning: General Standard 1 and Hands-on Standard 1.1 activity

11:05 – 11:30   Coffee break

11:30 – 12:30   Importance of Learning Objectives: Standard 2
                             Hands-on Learning Objectives or Competencies Worksheet

12:30 – 13:30   Practice Alignment: Standards 3, 4, 5, and 6
                             Hands-on Alignment Worksheet

13:30 – 13:45   Draft Helpful Recommendations: Part 1

13:45 – 14:45   Lunch

14:45 – 15:30   Draft Helpful Recommendations Part 2: Standards 7 and 8
                             Hands-on Activities: Standard 7.2 and Standard 8.3

15:30 – 15:50   Effects of Helpful Recommendations

15:50 – 16:15   Peer Review Process, Self-Review Tool, and Serving as a Peer Reviewer

16:15 – 16:35   Reflections, eLearning Marketplace, and Evaluation & Wrap Up

THURSDAY

08:00 – 09:00   **Registration**
Hall I Zeus

09:00 – 11:00   Opening Ceremonies and Keynote Address
Welcome: Dr Chris Barlow, Chair Steering Committee,
Southampton Solent University, United Kingdom

Introduction of the Keynote Speaker:
Dr Greg Anderson, Justice Institute of British Columbia, Canada

Keynote Address
FUTURE CONSIDERATIONS IN THE ADOPTION OF EDUCATIONAL TECHNOLOGIES
Dr Tannis Morgan
Associate Dean, Centre for Teaching, Learning, & Innovation, Justice Institute of British Columbia, Canada

Invited speaker
Oracle Academy 21st Century, New skills, New Jobs...Are you ready?
Danny Gooris, Senior Manager, Oracle Academy, EMEA

11:00 – 11:30   Coffee
Kamiros Foyer

11:30 – 13:30   **Concurrent Sessions 1-3**

Plenary Session 1: ICT in and Out of the Classroom
Hall 1 Zeus
Moderator: Dr Chris Barlow, Southampton Solent University, United Kingdom

CONTRASTING VIEWS – STUDENT AND TEACHERS PERCEPTIONS ON ICT IN EDUATION
J. Ola Lindberg, Anders D Olofsson, Umeå University, and Göran Fransson, University of Gävle, Sweden

CAN VLE BRIDGE DIVIDES BETWEEN INSTITUTIONS, ACADEMICS AND STUDENTS ON THE NATURE AND FUNCTION OF WRITTEN ASSESSMENT OF LEARNING?
Maria Eugenia Witzler D'Esposito, Faculdade Cultura Inglesa, Brazil
Iain McPhee, University of the West of Scotland, United Kingdom

INTELLECTUAL PROPERTY DEVELOPMENT RECIPROCATION ON DISTANCE LEARNING EDUCATION: A REVIEW OF THE LAW & POLICIES, CHALLENGES AND RECOMMENDATIONS
Sam M Dakka, Sheffield Hallam University, United Kingdom
Irage Dakka, Idan & Associates Law Firm & Notary, Israel

FINDING THE SWEET SPOT: CONNECTING PERSONAL, CLASSROOM, AND FIELD-BASED LEARNING EXPERIENCES THROUGH THE USE OF PROFESSIONAL LEARNING PLANS Tanya Stogre, Rachel Cool, Kristen MacIsaac, and Norm Vaughan, Mount Royal University, Canada

Plenary Session 2: Delivery Systems
Hall 2 Kamiros
Moderator: Dr Ġorġ Mallia, University of Malta, Malta

THE IDENTIFICATION OF APPLICABLE PRINCIPLES OF ONLINE LEARNING TO SUPPORT NOVICE ICT STUDENTS THROUGH THE USE OF AN LMS
Carla Coetzee and Mari van Wyk, Tshwane University of Technology, South Africa

A COMPARISON OF MOOC DEVELOPMENT AND DELIVERY APPROACHES
Neil Smith, The Open University, Helen Caldwell, University of Northampton, and Mike Richards, The Open University, United Kingdom

THE EFFECT OF LEARNING MANAGEMENT SYSTEM TRAINING ON TEACHERS' ONLINE TEACHING
Christine Armatas, Joseph Chow, Kannass Chan, Ada Tse, Dick Chan, Green Luk, The Hong Kong Polytechnic University, Hong Kong S.A.R., China

AFFORDANCES AND CONSTRAINTS OF A MOODLE ONLINE DISCUSSION BOARD: THE CASE OF AN UNDERGRADUATE CLASS IN BRAZIL
Tânia Gastão Saliés and Tania Granja Shepherd, Universidade do Estado do Rio de Janeiro, Brazil

Plenary Session 3: Domain Specific Inquiry
Hall 3 Ialyssos
Moderator: Dr Greg Anderson, Justice Institute of British Columbia, Canada

ARTIFICIAL INTELLIGENCE, COMPUTATIONAL THINKING, AND MATHEMATICS EDUCATION
George Gadanidis, Western University, Canada

COMPUTER ASSISTED SCIENCE INQUIRY IN THE SCIENCE CLUB
Konstantinos Karampelas, 2nd Experimental Primary School, University of the Aegean, Greece

THE USE OF SMARTPHONES AND SOCIAL MEDIA IN SCHOOLS OF KOTA SALATIGA, CENTRAL JAVA
Dharmaputra T. Palekahelu, Satya Wacana Christian University, Indonesia
John Hunt, Education Consultant: ICT for learning, Australia
Rose-Marie Thrupp, University of the Sunshine Coast, Australia
Stefanus Relmasira, Satya Wacana Christian University, Indonesia

THE INTERNET: THE VIEWS OF YEAR SIX STUDENTS
Stefanus Relmasira, Satya Wacana Christina University, Indonesia
Rose-Marie Thrupp, University of the Sunshine Coast, John Hunt, Education Consultant: ICT for learning, Australia

L'Onda restaurant at the Sheraton resort

13:30 – 15:30   Lunch
L'Onda Restaurant

15:30 – 17:30   Workshops

Hall 2: Kamiros
DIGITAL LEADERS ACROSS BOUNDARIES
Facilitators:
Neil Smith, The Open University
Helen Caldwell and Emma Whewell, University of Northampton, United Kingdom

Hall 3: Ialyssos
ICT'S ROLE IN REACHING THE UN'S 2030 SUSTAINABLE DEVELOPMENT GOALS (SDG)
Facilitators:
Marcie Boucouvalas, Virginia Tech, National Capital Region, Falls Church, VA
Linda Morris, Adult Development Associates, Portland, ME
United States of America

19:30 – 20:30   Welcome Drink
7th Floor Deck

FRIDAY

09:00 – 10:00   Posters Session
Hall 1 Zeus

Adjudicating Panel:
Dr Chris Barlow, Southampton Solent University, United Kingdom
Dr Marcie Boucouvalas, Virginia Tech, National Capital Region, United States of America
Dr Iain McPhee, University of the West of Scotland, United Kingdom
Dr Zuhaira Najjar, The Arab Academic College for Education in Israel, Israel
Dr Maria Eugenia Witzler D'Esposito, Faculdade Cultura Inglesa, Brazil

AN ITINERARY ABOUT THE PORTUGUESE MARITIME DISCOVERIES: A MOBILE LEARNING RESOURCE FOR CHILDREN
Cláudia Faria, Instituto de Educação, Universidade de Lisboa, Portugal

TOWARDS POSSIBILITIES FOR TECHNOLOGY ENHANCED LEARNING AND SCHOOL CHANGE: THE UPTAKE AND USE OF DIGITAL TECHNOLOGIES IN A ONE-TO-ONE INITIATIVE IN TWO SCHOOLS
Marcia Håkansson Lindqvist, Department of Education, Umeå University, Sweden

A BOOT CAMP EXPERIENCE TO EDUCATE SOFTWARE SKILLS FOR DEVELOPING SMARTPHONE APPLICATIONS
Dong Jin Kang, Yeungnam University, South Korea

INFORMATION COMMUNICATION TECHNOLOGIES AS A PEDAGOGICAL STRATEGY IN ENGLISH LANGUAGE LESSONS: A CASE STUDY APPROACH
Mirelly Karolinny De Melo Meireles, Instituto Federal De Educação, Ciência E Tecnologia Do Rio Grande Do Norte / Campus Caicó, Brazil

SUPPORTING SAUDI BLIND ADOLESCENTS TO MAKE INFORMED DECISIONS REGARDING THEIR FASHION CHOICES THROUGH THE APPLICATION OF ASSISTIVE TECHNOLOGIES
Sabriyyah Ogli, Southampton Solent University, United Kingdom

WE LIKE! OTHELLO: PROMOTING AN ENJOYABLE POST-SECONDARY SHAKESPEARE EXPERIENCE THROUGH FACEBOOK
Etienne Zammit and Daniel Xerri, University of Malta, Malta

A STUDY OF LEARNING ACHIEVEMENT, LEARNING RETENTION, AND SATISFACTION OF GRADE 6th STUDENTS USING INFOGRAPHIC MULTIMEDIA WITH AN INTERACTIVE COMPUTER GAME
Sopon Meejarleurn, Piangpen Jirachai, and Nattakorn Kraisri, King Mongkut's University of Technology Thonburi, Thailand

THE DEVELOPMENT OF AN INTERACTIVE DIGITAL BOOK ON A TABLET PC FOR THE SUBJECT ON MASS MEDIA FOR THE BACHELOR STUDENTS AT KING MONGKUT'S UNIVERSITY OF TECHNOLOGY THONBURI
Pornpapatsorn Princhankol and Apiradee Nilash, King Mongkut's University of Technology Thonburi, Thailand

THE DEVELOPMENT OF AN INFOGRAPHIC FOR LEARNING ENTITLED "UPDATE NEWS RELEASE" FOR THE INTERNAL PUBLIC RELATIONS OF MCOT PUBLIC COMPANY LIMITED
Kuntida Thamwipat, Polrat Laksaneeyanavin, Jutamat Sudthong, and Piyawan Mantawitaya, King Mongkut's University of Technology Thonburi, Thailand

DEVELOPMENT OF EDUCATIONAL GAMES ON LEARNING ANALYTICAL THINKING WITH FLOWCHARTS FOR GRADE 7 STUDENTS OF PROMMANUSORN PHETCHABURI SCHOOL
Sakesun Yampinij and Montarop Singtokasem, King Mongkut's University of Technology Thonburi, Thailand

10:00 - 11:30   Concurrent Sessions 4-6

Plenary Session 4: Gamification
Hall 1: Zeus
Moderator: Dr Iain McPhee, Institute for Applied Social and Health Research, University of the West of Scotland, United Kingdom

MESSING WITH YOUR MIND: USING GAMIFICATION IN A FLIPPED CONSUMER BEHAVIOUR CLASS
Tiffany Winchester, Monash University, Australia

STUDENTS' PERCEPTIONS OF GAME-BASED LEARNING USING CODINGAME
Prins Butt, Southampton Solent University, United Kingdom

NEW LOCALS: OVERCOMING INTEGRATION BARRIERS WITH MOBILE INFORMAL AND GAMIFIED LEARNING
Anna Lifanova, University of Bremen, Hong Yin Ngan, University of the Arts, Bremen, Alexandra Okunewitsch, Sabrina Rahman, Susana Guzmán, Nisha Desai, Melek Özsari, Jessika Rosemeyer, Roksolana Pleshkanovska, Alex Fehler, Merve Yildirim, Meltem Karayel, University of Bremen, Germany

DIGITAL MAKING WITH "AT-RISK" YOUTH
Janette Hughes, University of Ontario Institute of Technology, Canada

Plenary Session 5: Teachers and ICT
Hall 2: Kamiros
Moderator: Dr Marcie Boucouvalas, Virginia Tech, National Capital Region, United States of America

ATTITUDES TOWARDS, AND UTILISATION OF, VIRTUAL LEARNING ENVIRONMENTS AMONG POSTGRADUATE UNIVERSITY TEACHING STAFF
Victoria Smy, Marie Cahillane and Piers MacLean, Cranfield University, United Kingdom

A CASE STUDY OF THE BARRIERS AND ENABLERS AFFECTING TEACHING STAFF E-LEARNING PROVISION
Marie Cahillane, Victoria Smy, and Piers MacLean, Cranfield University, United Kingdom

COMMUNICATION AND META-COMMUNICATION IN SOFTWARE ENGINEERING
Uğur Demiray, Anadolu University, Turkey
Boriss Misnevs, Transport and Telecommunication Institute, Latvia

COMPUTERS MEET BIOLOGY – AN INTERDISCIPLINARY AND COLLABORATIVE APPROACH
Joanna Urban and Mila Kwiatkowska, Thompson Rivers University, Canada

UPPER SECONDARY SCHOOL TEACHERS' DIGITAL COMPETENCE: ANALYSED BY DEMOGRAPHIC, PERSONAL AND PROFESSIONAL CHARACTERISTICS
Rune Johan Krumsvik, Lise Jones, University of Bergen
Ole Johan Eikeland, Eikeland Research
Norway

Plenary Session 6: Innovative practices
Hall 3 Ialyssos
Moderator: Litsa Varonis, Hiram College, United States of America

TEACHING FESTIVALS AND COMMEMORATIVE DAYS FOR EARLY CHILDHOOD
IN A DEVELOPING TECHNOLOGICAL ERA – DILEMMAS AND PRACTICAL
SUGGESTIONS: CHRISTMAS AS AN EXAMPLE
Roseland Da'eem, Arab Academic College, Haifa, Israel

THE APPLICATION OF A NOVEL VOICE-DRIVEN MIDI CONTROLLER IN MUSIC
EDUCATION AND TRAINING
Christos Chousidis, Southampton Solent University, United Kingdom
Laurentiu Lipan, Polytechnic University of Bucharest, Romania

THE USE OF BRAINWAVE MONITORING TECHNIQUES TO INVESTIGATE THE
EFFECT OF AUDIO STIMULI ON STUDENT CONCENTRATION LEVELS IN A
LEARNING ENVIRONMENT
Edward John Eisinger, Jian Jiang and Lee Davison, Southampton Solent University, United
Kingdom

11:30 – 12:00   Coffee
Kamiros Foyer

12:00 – 13:30   Concurrent Sessions 7-9

Plenary Session 7: Feedback and Assessment
Hall 1: Zeus
Moderator: Dr Marie Cahillane, Cranfield Defence & Security, Cranfield University, The
Defence Academy of the United Kingdom, United Kingdom

A NOVEL APPROACH TO GRADING AND GENERATING FEEDBACK FOR
PRACTICAL ASSESSMENTS
Paul Bourne and Sean Lancastle, Southampton Solent University, United Kingdom

THE USE OF DIGITAL ASSESSMENT GUIDES TO IMPROVE STUDENT GRADES AND
SATISFACTION WITH THE ASSESSMENT PROCESS.
Claire Moscrop and Susan Canning, Edge Hill University, United Kingdom

FUNCTIONS AND ROLES OF SCAFFOLDING AND META-COMMUNICATION IN
DISTANCE EDUCATION FOR DISTANCE LEARNING MATERIALS
Uğur Demiray, Anadolu University, Turkey

PERCEPTIONS OF STUDENTS CONDUCTING PEER REVIEW USING CLOUD-BASED
SOFTWARE
Gjoa Andrichuk, British Columbia Institute of Technology, Canada

Plenary Session 8: Technology in Business Education
Hall 2: Kamiros
Moderator: Dr Victoria Smy, Centre for Cyber Security and Information Systems, Cranfield University, The Defence Academy of the United Kingdom, United Kingdom

EVALUATING THE IMPACT OF SOCIO-ECONOMIC AND DEMOGRAPHIC FACTORS ON SELECTED ASPECTS OF E-LEARNING IN PUBLIC ADMINISTRATION EDUCATION
Aleksander Aristovnik, Damijana Keržič, Nina Tomaževič, and Lan Umek,
University of Ljubljana, Slovenia

LOGISTICS AND TIME EFFICIENCY OF MICRO EXAMS
Samuel Kosolapov and Nissim Sabag, ORT Braude Academic College of Engineering, Israel

BORN FLIPPED – BLENDED LEARNING CLASSROOMS FOR AN ENTIRE BUSINESS PROGRAM
Tiffany Winchester, Bruce Johnstone, David Treisman, and David Teh,
Monash University, Australia

A FLIPPED CLASSROOM IN ENGINEERING EDUCATION – STUDENT PERCEPTION AND EFFECT ON LEARNING
Sean Lancastle, Christopher Barlow, and Lee Davison, Southampton Solent University, United Kingdom

Plenary Session 9: Language Learning Technologies
Hall 3: Ialyssos
Moderator: Dr Maria Eugenia Witzler D'Esposito, Faculdade Cultura Inglesa, Brazil

IMPACT ON STUDENT MOTIVATION OF INTEGRATING GOOGLE DOCS WITHIN A REMEDIAL ENGLISH WRITING CLASS
Wessam Al-Chibani, Notre Dame University – Louaize, Lebanon

USING CORPUS LINGUISTICS TOOLS TO HELP TRANSLATION STUDENTS CREATE TECHNICAL GLOSSARIES
Alexandre Trigo Veiga, São Paulo Catholic University – Associação Cultura Inglesa São Paulo, Brazil

The Castellania restaurant at the Sheraton resort

AVATARS IN LANGUAGE LEARNING
Vera Menezes, Federal University of Minas Gerais, Brazil

13:30 – 15:30   Lunch
Castellania restaurant

15:30 – 17:30   Graduate Student Award Symposium
Hall 1: Zeus

Judges:
Dr Greg Anderson, Justice Institute of British Columbia, Canada
Dr Ġorġ Mallia, University of Malta, Malta
Dr Tannis Morgan, Justice Institute of British Columbia, Canada
Dr Linda Morris, Adult Development Associates, United States of America
Dr Costas Tsolakidis, University of the Aegean, Greece

EVALUATING ICT INITIATIVE IN SCHOOLS IN NORTHERN KENYA: EXPECTED
FAILURES, UNINTENDED CONSEQUENCES
Yein Suh, Teachers College, Columbia University, United States of America

TEACHING IN IMMERSIVE VIRTUAL WORLDS: CONCEPTUAL CHALLENGES AND
OPPORTUNITIES
Claire Englund, Department of Education, Umeå University, Sweden

GeNIE: A PORTAL FOR GAMIFICATION OF HIGHER EDUCATION
Çağrı Çubukçu, Lizbeth Goodman, and Eleni Mangina, University College Dublin, Ireland

Cultural Event: Throne of Helios
The "Throne of Helios" is a modern entertainment center that combines cinema and a
thematic area with historical exhibits and screenings: 3D picture, sound, motion, rain, snow,
wind, fire and even smells, playing with the senses and giving maximum entertainment.
It is a unique combination of historical tradition and high technology, in the historic
building of the old cinema «St. George» on March 25 Street. This was the first cinema in
Rhodes built by the Italians in 1927.

20:00: Pick up from Sheraton Hotel (approximately a 10-minute drive). The duration
of the show is 20 minutes. We will also tour the historical exhibition in the lobby. This
covers the period from prehistoric times to the 20th century. We will watch documentaries on mythological and historical events. Afterwards there will be free time in Rhodes Town/Old Town.

A scene from the "Throne of Helios"

23:30: Transfer back to Sheraton Hotel.

Tickets: €15

SATURDAY

10:00 – 11:30 Concurrent Sessions 10-11 and Workshop

Plenary Session 10: Teachers and Training
Hall 1: Zeus
Moderator: Dr Marcia Håkansson Lindqvist, Department of Education, Umeå University, Sweden

IMPLEMENTATION OF THE NATIONAL ICT PLAN FOR THE 21ST CENTURY AMONG ARAB TEACHERS AS A RESULT OF READINESS TO CHANGE, ICT PROFICIENCY AND DEMOGRAPHICS
ZuhairaNajjar, The Arab Academic College for Education in Israel, Israel

ICT USE BY SCHOOLS IN KOTA SALATIGA, CENTRAL JAVA
Dharmaputra T. Palekahelu, Satya Wacana Christian University, Indonesia
John Hunt, Consultant: ICT in learning, Rose-Marie Thrupp, University of the Sunshine Coast, Australia

OPEN WINGS II: TOWARDS THE DEVELOPMENT OF THE GREATER SENSE OF SELF
Nancy Pyrini, 1st Primary School of Rafina, Greece
Evangeline Marlos Varonis, Hiram College, Orestes Varonis, Varonis NDE Consulting LLC, United States of America

Plenary Session 11: Developments in ICT
Hall 2: Kamiros
Moderator: Dr Costas Tsolakidis, Department of Education, University of the Aegean, Greece

THE DEVELOPMENT OF A SOCIAL NETWORK TO SUIT USC STUDENTS` PROFILE
Igor Fastroni Corrêa, Elvio Gilberto da Silva, and Patrick Pedreira Silva, Universidade do Sagrado Coração, Brazil

DEVELOPMENT OF A MULTIPLATFORM COMPUTER ALGEBRA SYSTEM TO SUPPORT THE TEACHING OF MATHEMATICS
Victor Fernando Conti, Elvio Gilberto da Silva, Patrick Pedreira Silva, and Rosane Maria Lima Araújo, Universidade do Sagrado Coração, Brazil

THE DEVELOPMENT OF A CHATTERBOT FOR ENVIRONMENTAL EDUCATION
Vinicius Tonelli De Oliveira, Elvio Gilberto da Silva and Patrick Pedreira Silva, Universidade do Sagrado Coração, Brazil

Instances from ICICTE 2015, held on Kos island, Greece

Workshop
Hall 3: Ialyssos
INDEPENDENT-INDIVIDUAL, INCIDENTAL ACQUISITION AND THE MOVE AWAY
FROM FORMAL LEARNING
Facilitator:
Ġorġ Mallia, University of Malta, Malta

11:30 – 12:30   Philosophers' Café
Kamiros Foyer

12:30 – 14:00 Round Table Discussion and Concurrent Workshops

ROUND TABLE DISCUSSION ON INTERNATIONAL FUNDING OPPORTUNITIES
Hall 1: Zeus
Moderator: Nancy Pyrini, University of the Aegean, Greece

EXPERIENCES FROM THE ERASMUS+ PROGRAMME: HOW TO GET STARTED
Nancy Pyrini, University of the Aegean, Greece

ERASMUS+ PROJECT IN BLAISE PASCAL UNIVERSITY: A UNIVERSITY ON A
HUMAN SCALE AT THE FOREFRONT OF TEACHING AND RESEARCH IN A CITY
ON THE MOVE
Lamia Badra, ELICO EA 4147, University of Clermont2, France

"OrCheSTra: OROPOS - CHESHIRE - SAMOS TRAINING ALLIANCE II": AN
ERASMUS+ MOBILITY PROJECT FOR VET LEARNERS AND STAFF
George Sarrigeorgiou, Technical Vocational School Markopoulou-Oropou, Greece

THE UNITED DISTANCE EDUCATION FOR EASTERN EUROPE, WESTERN ASIA
AND NORTHERN AFRICA ASSOCIATION
Uğur Demiray, School of Communication Sciences, Anadolu University, Turkey

Concurrent Workshops

Hall 2: Kamiros
ROCKS IN THE RIVER: EXPLORING THE USE OF EDUCATIONAL TECHNOLOGY
Facilitator:
Greg Anderson, Justice Institute of British Columbia, Canada

Hall 3: Ialyssos
COMPUTING UNPLUGGED: EXAMPLES AND PRACTICE
Facilitators:
Neil Smith, Department of Computing and Communications, The Open University
Helen Caldwell, University of Northampton, United Kingdom

14:00 – 14:45 Closing Ceremonies
Hall 1: Zeus

ICICTE Graduate Student Award
Dr Greg Anderson, Chair Scientific
Committee

ICICTE Best Poster Award
Dr Costas Tsolakidis, Steering
Committee

Friend of the Conference Award
Dr Ġorġ Mallia, Chair Publications
and Promotions Committee

**Acknowledgements and Closing
Remarks**
Dr Chris Barlow, Chair Steering Committee

Alexis 4 Seasons Restaurant, venue for the closing "Greek Night" dinner

20:00   Pick up from the Conference Venue for **Closing "Greek Night" Dinner**
Alexis 4 Seasons Restaurant
33 Aristotelous, Medieval town

A family photo of the Steering Committee and some of the delegates that attended ICICTE 2015, held on the island of Kos

Applying the Quality Matters Rubric

This workshop will explore the Quality Matters Project and Processes and will prepare you to be part of an initiative that positively impacts the design of online/blended courses and ultimately, student learning and success. Quality Matters (QM, http://www.qmprog.org) is a non-profit program currently in use in over 600 institutions in the U.S. as well as institutions in Australia, Canada, Fiji, Greece, Ireland, Saudi Arabia, and Singapore.

QM is designed to improve the quality of online and blended courses by establishing a peer-reviewed quality assurance review process. All participants will receive a copy of the current Quality Matters Rubric, which includes annotations that explain each standard. You will become familiar with the Quality Matters standards and participate in a practice peer course review of an online course using the review tools. After successfully completing this workshop, you will gain ideas to improve your own courses using the QM Standards, be able to print a certificate of completion, and be eligible to enroll in the QM Online Peer Reviewer Certification course

Upon completion of this Quality Matters (QM) workshop, participants will be able to: Identify the underlying principles of QM.

- Identify the critical elements of the QM quality assurance program, including the QM Rubric, materials, processes, and administrative components.
- Apply the QM Rubric to review online courses in higher education.
- Make decisions on whether the SPH113 course meets selected QM Rubric standards.
- Apply the concept of alignment.
- Write helpful recommendations for course improvement by citing annotations from the QM Rubric and evidence from the course.

Facilitator: Evangeline (Litsa) Varonis, University of Akron. QM Facilitator and Master Reviewer

Seats Available: 30

Who should attend? Faculty, instructional designers, and administrators interested in learning more about effective online course design and/or the Quality Matters peer review process.

Cost: As a result of QM's sponsorship of ICICTE 2016, regular fees for this course ($200 for subscribers and $300 for non-subscribers) have been waived. Registration is required!

Date: Wednesday, July 6, 09.00 to 16.35 (see **page 6** for agenda).

THURSDAY

11:30 – 13:30 Concurrent Sessions 1-3

Plenary Session 1: ICT in and Out of the Classroom

CONTRASTING VIEWS – STUDENT AND TEACHER PERCEPTIONS ON ICT IN EDUATION

J. Ola Lindberg, Anders D Olofsson, Umeå University, and Göran Fransson, University of Gävle, Sweden

This paper reports on a study of upper secondary school teachers' and students' perceptions of information and communication technologies (ICT) in education. The data for the study are interviews with teachers and students that are part of a Swedish four-year project concerned with the advanced use of ICT in education. The results show that teachers use ICT for several different purposes and that students expressed an extensive use of ICT. Data reveals a difference between students' in- and out-of-school use of ICT; out of school they rely more on their smartphones than they do in-school.

CAN VLE BRIDGE DIVIDES BETWEEN INSTITUTIONS, ACADEMICS AND STUDENTS ON THE NATURE AND FUNCTION OF WRITTEN ASSESSMENT OF LEARNING?

Maria Eugenia Witzler D'Esposito, Faculdade Cultura Inglesa, Brazil
Iain McPhee, University of the West of Scotland, United Kingdom

Building on previous research investigating the purposes of assessment from a student perspective (D'Esposito & McPhee, 2015), this research explores teachers' insights in the nature and purpose of written assessment using electronic means, in particular the use of virtual learning environments (VLEs). Using a mixed methods research design, a questionnaire was created based on previous research tools and emailed to teachers familiar with information communication technologies in education. in-depth semi-structured interviews were conducted with seven randomly selected participants. Results indicate conflict between academics, higher education institutions (HEIs) and students' perceptions on the nature and function of written assessment.

INTELLECTUAL PROPERTY DEVELOPMENT RECIPROCATION ON DISTANCE LEARNING EDUCATION: A REVIEW OF THE LAW & POLICIES, CHALLENGES AND RECOMMENDATIONS

Sam M Dakka, Sheffield Hallam University, United Kingdom
Irage Dakka, Idan & Associates Law Firm & Notary, Israel

Distance learning education via computer enabled technologies had created non-traditional off-site learners where better student engagement shifted towards organized content leadership to facilitate courseware delivery. The new teaching model caused concerns with regards to course material ownership and intellectual property rights (IPR), which prompted new legislations and policies to be put in place. University policies, while acknowledging ownership should be maintained by faculty, have a higher number of exemptions tailored for collection of a certain percentage of royalties. This reinforced faculty concerns of infringement of academic freedom of expression. Studies demonstrated raising awareness of IPR among faculty and students should be exercised.

FINDING THE SWEET SPOT: CONNECTING PERSONAL, CLASSROOM, AND FIELD-BASED LEARNING EXPERIENCES THROUGH THE USE OF PROFESSIONAL LEARNING PLANS

Tanya Stogre, Rachel Cool, Kristen MacIsaac, and Norm Vaughan, Mount Royal University, Canada

The purpose of this research study was to investigate how teacher candidates in a Bachelor of Education (B.Ed.) program are using a professional learning plan to document and demonstrate their achievement by digitally connecting their personal, classroom, and field-based learning experiences. Findings suggest that teacher candidates use the professional learning plan to digitally connect their learning by: having all their program competency artifacts in one place to connect, critique, and reflect upon; being able to document their professional growth; journaling in each of their courses; and peer mentoring and collaboration.

Plenary Session 2: Delivery Systems

THE IDENTIFICATION OF APPLICABLE PRINCIPLES OF ONLINE LEARNING TO SUPPORT NOVICE ICT STUDENTS THROUGH THE USE OF AN LMS

Carla Coetzee and Mari van Wyk, Tshwane University of Technology, South Africa

in higher education, learning management systems (LMS) are widely accepted and used as teaching strategies and tools. However, the question that arises is: Which principles are adhered to when LMSs are used to contribute positively to enhanced quality in teaching and learning. This paper explores the application of the identified principles used to support first-year (foundation) Information and Communication Technologies (ICT) students at the Tshwane University of Technology (TUT) when using an LMS.

A COMPARISON OF MOOC DEVELOPMENT AND DELIVERY APPROACHES

Neil Smith, The Open University, Helen Caldwell, University of Northampton, and Mike Richards, The Open University, United Kingdom

We present a comparison of two ways of developing and delivering Massive Open Online Courses (MOOCs). One was developed by the Open University in collaboration with FutureLearn; the other was developed independently by a small team at Northampton University. The different approaches had very different profiles of pedagogic flexibility, cost, development processes, institutional support, and participant numbers. This comparison shows that, several years after MOOCs became prominent, there are many viable approaches for MOOCs. MOOCs on existing large platforms can reach thousands of people, but constrain pedagogical choice. Self-made MOOCs have smaller audiences but can target them more effectively.

THE EFFECT OF LEARNING MANAGEMENT SYSTEM TRAINING ON TEACHERS' ONLINE TEACHING

Christine Armatas, Joseph Chow, Kannass Chan, Ada Tse, Dick Chan, and Green Luk
The Hong Kong Polytechnic University, Hong Kong S.A.R., China

Universities invest considerable resources in learning management system (LMS) training for their staff. One measure of the effectiveness of this training is participants' post-training behavior, which can be obtained from LMS usage logs. in this paper we report preliminary analysis of these logs, showing that both teachers who have received LMS training and their students are more active in their online courses compared to those who have not. This preliminary analysis of usage data in

conjunction with training information suggests a positive effect of training and can potentially help to provide information to ensure training is targeted and effective.

AFFORDANCES AND CONSTRAINTS OF A MOODLE ONLINE DISCUSSION BOARD: THE CASE OF AN UNDERGRADUATE CLASS IN BRAZIL

Tânia Gastão Saliés and Tania Granja Shepherd, Universidade do Estado do Rio de Janeiro, Brazil

Among the different cultural artifacts that may mediate learning in virtual environments are online discussion boards. Research, however, has demonstrated that the artifact may become a double-edged sword: Participants may either collaborate toward knowledge co-construction or ignore their interlocutors, behaving individually. What are the affordances and constraints created by participation in a discussion board? To better understand the issue, this paper focuses qualitatively on a corpus of exchanges mediated by a Moodle online discussion board within a sociocultural approach.

Plenary Session 3: Domain Specific Inquiry

ARTIFICIAL INTELLIGENCE, COMPUTATIONAL THINKING, AND MATHEMATICS EDUCATION

George Gadanidis, Western University, Canada

This paper examines the intersection of artificial intelligence (AI), computational thinking (CT), and mathematics education (ME) for young students (K-8). Specifically, I focus on three key elements that are common to AI, CT and ME: (a) agency, (b) modelling of phenomena, and (c) abstracting concepts beyond specific instances. Seeing ME through the lenses of other disciplines and recognizing that there is a significant overlap of key elements reinforces the importance of agency, modelling and abstraction in ME and provides new contexts and tools for incorporating them in classroom practice.

COMPUTER ASSISTED SCIENCE INQUIRY IN THE SCIENCE CLUB

Konstantinos Karampelas, 2nd Experimental Primary School, University of the Aegean, Greece

This paper examines the innovative teaching approach of computer assisted inquiry in science subjects. This approach is justified through research to promote effectively knowledge, skills and attitudes in science as well as computer subjects. When teachers implement it though, challenges arise. Most of these challenges are generated by factors of the school context where teachers work. in this research the approach was implemented in the Science Club, in a primary school in Greece. in this club, attempts were made to reduce these factors. Through a qualitative research it was concluded that the club was indeed a fruitful context, but several challenges remained.

THE USE OF SMARTPHONES AND SOCIAL MEDIA IN SCHOOLS OF KOTA SALATIGA, CENTRAL JAVA

Dharmaputra T. Palekahelu, Satya Wacana Christian University, Indonesia
John Hunt, Education Consultant: ICT for learning, Australia
Rose-Marie Thrupp, University of the Sunshine Coast, Australia
Stefanus Relmasira, Satya Wacana Christian University, Indonesia

Smartphones and social media are the source of entertainment and communication for many students, both inside and outside of school. This is the case in Indonesia where high numbers of students from Year 6 to senior schooling have access to a phone and social media. To investigate student use of smartphones and social media, it is therefore appropriate to collect data from students. Children

know first-hand what they do, know and think about the environment created by smartphones and social media. This study will inform educational leaders about design learning of the future.

THE INTERNET: THE VIEWS OF YEAR SIX STUDENTS

Stefanus Relmasira, Satya Wacana Christina University, Indonesia
Rose-Marie Thrupp, University of the Sunshine Coast, John Hunt, Education Consultant: ICT for learning, Australia

As the Internet encroaches into our daily activities, and the Internet of Things (IoT) looms on the horizon, children's conceptualization of the Internet, its elements and functions, forms the basis of its use in teaching and learning. Only the children know what they know and think about the Internet. This research draws upon children's ideas of the Internet. Participating students were asked to *Draw a picture of what the Internet looks like, sounds like and feels like,* using pictures, words or both. What the researchers found was amazing!

FRIDAY

10:00 - 11:30 Concurrent Sessions 4-6

Plenary Session 4: Gamification

MESSING WITH YOUR MIND: USING GAMIFICATION IN A FLIPPED CONSUMER BEHAVIOUR CLASS

Tiffany Winchester, Monash University, Australia

With momentum gaining for flipped classrooms, in order to reach and engage millennial learners, it is essential that teaching pedagogy solidly underpin these changes. Yet even with solid pedagogy and reasoning, is flipping the classroom enough to engage students? This paper presents a case study of a gamified second-year undergraduate unit with a flipped classroom design. This study outlines the reasoning behind each of the elements in an effort to not only engage the students in the material, but to also encourage them to think deeply while learning new skills. This case outlines the scaffolding necessary for a constructivist approach to gamification within a business course in Australia. Recommendations are made for future practice.

STUDENTS' PERCEPTIONS OF GAME-BASED LEARNING USING CODINGAME

Prins Butt, Southampton Solent University, United Kingdom

Game-based learning is a form of gameplay that has defined learning outcomes. It is a trend with many advocates, and one which has experienced rapid growth in recent years. This paper discusses the potential of this approach and presents the results of the author's pilot study of the perceptions of students on the use of game-based learning in introductory computer programming. A quantitative approach was taken with a closed-ended questionnaire, and data was collected from a sample of 33 first year undergraduate students. The findings indicate that the students found this particular approach to learning enjoyable and preferable to conventional approaches.

NEW LOCALS: OVERCOMING INTEGRATION BARRIERS WITH MOBILE INFORMAL AND GAMIFIED LEARNING

Anna Lifanova, University of Bremen, Hong Yin Ngan, University of the Arts Bremen, Alexandra Okunewitsch, Sabrina Rahman, Susana Guzmán, Nisha Desai, Melek Özsari, Jessika Rosemeyer, Roksolana Pleshkanovska, Alex Fehler, Merve Yildirim, Meltem Karayel, University of Bremen, Germany

The article describes a study focused on integration of refugee and migrant teenagers into German society. The research was done in 2015-2016 by a group of students from the University of Bremen, Digital Media department. The central issue in this research is the migration crisis in Europe that reveals many challenges, one of which is the question of newcomers' adaptation to the local society and culture. The paper contains results of a literature analysis, state of the art projects and results from qualitative interviews. The research was used to complete the requirements for a gamified digital communication application.

DIGITAL MAKING WITH "AT-RISK" YOUTH

Janette Hughes, University of Ontario Institute of Technology,   Canada

This paper explores how a small group of adolescents in an alternative care and treatment program develop digital literacy skills over time while immersed in a rich media setting. It also explores how the students use new media tools and affordances to "perform" their identities and to present themselves within their classroom community. The author shares how these students used inquiry-based learning and multiple modes of expression, facilitated by the multimodal, multimedia nature of digital media, including both screen-based and tangibles as essential components of knowing and communicating.

Plenary Session 5: Teachers and ICT

ATTITUDES TOWARDS, AND UTILISATION OF, VIRTUAL LEARNING ENVIRONMENTS AMONG POSTGRADUATE UNIVERSITY TEACHING STAFF

Victoria Smy, Marie Cahillane and Piers MacLean, Cranfield University, United Kingdom

Skill retention within a virtual learning environment (VLE) is dependent upon the complexity inherent in skill use (Cahillane, MacLean, & Smy, 2015) and the frequency of skill use (Arthur, Bennett, Stanush, & McNally, 1998). A questionnaire was used to capture demographics and perceptions/ attitudes concerning VLE usefulness, VLE ease of use and self-reported VLE use among postgraduate level teachers. Results indicate that self-reported teaching workloads were negatively associated with attitudinal positivity. Further results indicated that the attitudinal concept of *Perceived usefulness* explained a significant amount of unique variance in *VLE Use*. However, perceptions concerning the *Ease of VLE use* did not.

A CASE STUDY OF THE BARRIERS AND ENABLERS AFFECTING TEACHING STAFF E-LEARNING PROVISION

Marie Cahillane, Victoria Smy, and Piers MacLean, Cranfield University, United Kingdom

The present paper reports the outputs of a focus group examining the perceived uses, enablers and barriers of utilising virtual learning environments (VLEs), amongst a small group of postgraduate teachers. Sixteen pedagogical/teaching functions were identified and were mapped to MacLean and Scott's (2011) model of VLE elements. Whilst a number of enablers of VLE use were apparent,

participants' insights and inputs indicated a larger number of VLE barriers. It appears that the biggest barrier to overcome in using VLEs is finding the time to develop the materials and navigate the technology.

COMMUNICATION AND META-COMMUNICATION IN SOFTWARE ENGINEERING

Uğur Demiray, Anadolu University, Turkey
Boriss Misnevs, Transport and Telecommunication Institute, Latvia

This paper examines and focuses on some issues and questions relating to the use of the meta-communication concept in the software engineering process. Also investigated are the role of IT project communication and the project management tools that can be regarded as vital for software engineering, primarily the Internet, email, printed materials and the categories by which development teams interact. in the field of Software Engineering the perception of the role of socio-cognitive engineering (SCE) is continuously increasing. Today, the focus is especially on the identification of human and organizational decision errors caused by software developers and managers under high-risk conditions, as evident by analyzing reports on failed IP projects. in this paper, more detailed aspects of cognitive decision-making and its possible human errors and organizational vulnerability are presented. The formal TOGA-based network model for cognitive decision-making enables us to indicate and analyze nodes and arcs in which software developers' and managers' errors may appear. As the nature of human errors depends on the specific properties of the decision-maker and the decision context of IT project processes, a classification of decision-making is suggested. Several types of initial situations of decision-making useful for the diagnosis of software developers' errors are considered. The developed models can be used for training the IT project management executive staff.

COMPUTERS MEET BIOLOGY – AN INTERDISCIPLINARY AND COLLABORATIVE APPROACH

Joanna Urban and Mila Kwiatkowska, Thompson Rivers University, Canada

Interdisciplinary methods create connections between traditionally distinct disciplines such as sciences, social studies, arts, or languages. This paper presents the experience of team-teaching Bioinformatics by faculty from Computing Science (MK) and Biological Sciences (JU) in a Computing Science undergraduate course, *Introduction to Biomedical Informatics*. The main purpose, to involve students, with little or no biological background, in actual research projects related to Biology and Medicine, was accomplished by hands-on exercises and assignments using real data from a medical clinic, and real DNA and RNA data from the sequencing of genes related to seed dispersal of a parasitic plant, Dwarf Mistletoe.

UPPER SECONDARY SCHOOL TEACHERS' DIGITAL COMPETENCE: ANALYSED BY DEMOGRAPHIC, PERSONAL AND PROFESSIONAL CHARACTERISTICS

Rune Johan Krumsvik, Lise Jones, University of Bergen
Ole Johan Eikeland, Eikeland Research
Norway

Educational technology provides an opportunity to improve the quality of education. There is however a lack of uptake in utilizing the equipment provided, as well as a lack of well-established methods for monitoring the use of educational technology. in this paper, which is based on one of the largest ICT studies in secondary schools in Norway, we explore the relationship between upper secondary school teachers' digital competence analysed by demographic, personal and professional characteristics. The implications of this study are that demographic, personal and professional characteristics, such as a teacher's age, work experience, gender, screen time and ICT education,

predict teachers' high or low digital competence in upper secondary school to a certain degree. Further research is recommended in order to validate these preliminary findings.

Plenary Session 6: Innovative Practices

TEACHING FESTIVALS AND COMMEMORATIVE DAYS FOR EARLY CHILDHOOD IN A DEVELOPING TECHNOLOGICAL ERA – DILEMMAS AND PRACTICAL SUGGESTIONS: CHRISTMAS AS AN EXAMPLE
Roseland Da'eem, Arab Academic College, Haifa, Israel

This paper discusses the teaching of the Christmas festival in a kindergarten (3-6 years), in the digital era, in the contexts of religious ethnographic, folklore and education. Arab Christians are part of a multicultural society in Israel, where festivals help to shape individuals' identities and reinforce affiliations, but also help them to recognize and contain others, reinforcing intercultural relations. Kindergartens expose children to the practices and underlying rationales of festivals as a means to transmit social, moral and national values. The child absorbs the festival's religious and cultural dimensions from both the environment and the experiential transmission process taught in the kindergarten.

THE APPLICATION OF A NOVEL VOICE-DRIVEN MIDI CONTROLLER IN MUSIC EDUCATION AND TRAINING
Christos Chousidis, Southampton Solent University, United Kingdom
Laurentiu Lipan, Polytechnic University of Bucharest, Romania

Music technology is an integral part of music education and training today. A series of applications are developed to assist musicians to record their performance to write music score, to analyze rhythmic and melodic patterns and evaluate their progress. However, the human singing voice which is the dominant means of musical expression it lacks this feature. The system presented in this paper implements an efficient method to convert Electroglottographic signal into MIDI messages. The paper describes the characteristics the operation and the limitation of this novel system and examines its potential application in music education and training.

THE USE OF BRAINWAVE MONITORING TECHNIQUES TO INVESTIGATE THE EFFECT OF AUDIO STIMULI ON STUDENT CONCENTRATION LEVELS IN A LEARNING ENVIRONMENT
Edward John Eisinger, Jian Jiang and Lee Davison, Southampton Solent University, United Kingdom

The properties of audio stimuli, such as the frequency and strength of a sound/voice, can have both positive and negative impacts on audiences' cognitive processes. This is especially important for students who study in a learning environment where the information is mainly passed on through audio/voice communication, such as a traditional lecture. The brain goes through different neurological activities reflecting the positive and negative impacts. These activities can be monitored and analysed from their distinctive brainwave outputs using a special electroencephalographic device. in this study, the key properties of audio stimuli that may affect the student's concentration level were investigated. These include: (a) the frequency and strength of the main communicating voice and (b) the type and strength of background sounds behind the main voice. A special electroencephalograph device was used. This device places small non-invasive electrodes on a participant's head, picks up tiny amounts of electrical activity created by the brain, and interpolates the outputs into a concentration level (i.e., neurological attention values) measurable on a scale of 0-6.

The study was carried out by monitoring the participants' concentration level when they were listening to a selection of different voice clips presenting the same information. Effect of background sounds was investigated by playing different types of background sounds at various levels behind the same learning material. Results showed that the properties of the main voice can influence the audience's concentration level, some music that does not use predominantly sounds occupying the critical voice bandwidth can help to improve the concentration, and environmental noise, specifically vocal sounds (such as a distant argument or raised voices), can detract audience from the learning experience.

Plenary Session 7: Feedback and Assessment

A NOVEL APPROACH TO GRADING AND GENERATING FEEDBACK FOR PRACTICAL ASSESSMENTS

Paul Bourne and Sean Lancastle, Southampton Solent University, United Kingdom

This paper discusses the design and implementation of a practical assessment using Microsoft Excel to automatically grade and produce feedback based upon heavily quantised scores. The aims are to design an assessment that encourages experiential learning, efficiently and consistently produces effective feedback, and produces an appropriate distribution of grades that link to the intended learning outcomes. The pedagogic merits are discussed and some operational considerations. A pilot project is evaluated based on the tutor perspective with the intention to discuss the student perspective in a future paper. Findings from the pilot suggest that the project was largely successful, with the core aims met.

THE USE OF DIGITAL ASSESSMENT GUIDES TO IMPROVE STUDENT GRADES AND SATISFACTION WITH THE ASSESSMENT PROCESS.

Claire Moscrop and Susan Canning, Edge Hill University, United Kingdom

This study assesses the use of digital assessment guides (DAG) to improve student attainment and satisfaction with the assessment process. The value of DAG comes in the 'just in time' nature of the resources, giving students the key information not only at their point of need, but at their point of *understanding*. The study saw DAG introduced to 230 students across three modules on an undergraduate computing degree in a UK university. The results demonstrated an improvement in student grades, and students were highly satisfied with the DAG, noting the positive affect they had on their learning and module outcomes.

FUNCTIONS AND ROLES OF SCAFFOLDING AND META-COMMUNICATION IN DISTANCE EDUCATION FOR DISTANCE LEARNING MATERIALS

Uğur Demiray, Anadolu University, Turkey

Up to the 21st century, the usage of Internet, Skype, Broadband, Facebook, Blogs, Wikis, Netiquette or iTunes was not as popular as nowadays. With also the recent digital development of Open Education Resources organizations and individuals in order to make a summative analysis and give recommendations from the perspective of functional roles of scaffolding and meta-communicational within the digital learning environment. (OER) and Massive Open Online Courses (MOOCs), these emergences towards free and open resources and courses bring about potential democratization of distance education applications. This paper looks into the impact and the types of evidence that are generated across initiatives.

PERCEPTIONS OF STUDENTS CONDUCTING PEER REVIEW USING CLOUD-BASED SOFTWARE

Gjoa Andrichuk, British Columbia Institute of Technology, Canada

This study looks at the change in perception regarding the effect of peer feedback on writing skills using cloud-based software. Pre- and post-surveys were given. The students peer reviewed drafts of five sections of scientific reports using Google Docs. While students reported that they did not perceive their writing ability improved by being peer reviewers, they observed that having others peer review their work did improve their writing. They also indicated that they preferred to use cloud-based tools to paper, and their comfort level sharing their personal information increased. Future studies should involve digital literacy pedagogies to improve collaborative writing skills.

Plenary Session 8: Technology in Business Education

EVALUATING THE IMPACT OF SOCIO-ECONOMIC AND DEMOGRAPHIC FACTORS ON SELECTED ASPECTS OF E-LEARNING IN PUBLIC ADMINISTRATION EDUCATION

Aleksander Aristovnik, Damijana Keržič, Nina Tomaževič, and Lan Umek, University of Ljubljana, Slovenia

Nowadays blended learning is very popular in higher education. Enrolled in e-courses, students form opinions on different aspects of e-learning. in our study, we focused on assessing such aspects from the students' perspective and explored differences between subgroups, based on socio-demographic characteristics of students in public administration programmes. The empirical results show that students' attitudes to blended learning increase significantly by year of study and decrease according to the amount of other activities. in addition, the results indicate that the main challenge of the faculty management and teachers is to increase the engagement of first-year students regarding the work in e-courses.

LOGISTICS AND TIME EFFICIENCY OF MICRO EXAMS

Samuel Kosolapov and Nissim Sabag, ORT Braude Academic College of Engineering, Israel

Micro Exams (ME) are short exams composed of a few multiple choice questions, provided during lectures, exercises, and laboratories in order to actively involve the students, collect feedback from students, and to monitor how they follow the educator, as suggested by the *active learning* concept. Students can answer ME questions by writing on plain paper, selecting the answer on a multiple choice form, using clickers, or other techniques. Proper ME logistics must have minimal non-educational time overhead both for the educator and for the students. The time efficiency of a number of ME techniques was evaluated in several courses.

BORN FLIPPED – BLENDED LEARNING CLASSROOMS FOR AN ENTIRE BUSINESS PROGRAM

Tiffany Winchester, Bruce Johnstone, David Treisman, and David Teh,
Monash University, Australia

This paper presents a descriptive multi-case study of an undergraduate program that was 'born flipped': where every course in the program is taught in flipped classroom mode. Four separate accounts from a range of disciplines are presented, including marketing, management, economics and accounting. The Four Pillars of F-L-I-P is used as a framework for discussion. This study concludes with thoughts on the potential impact of flipped classrooms within higher education and recommendations for this model of education.

A *FLIPPED CLASSROOM* IN ENGINEERING EDUCATION – STUDENT PERCEPTION AND EFFECT ON LEARNING

Sean Lancastle, Christopher Barlow, and Lee Davison, Southampton Solent University, United Kingdom

This study examines a module taught on an engineering programme using a *flipped* approach, to students who otherwise were taught using a traditional lecture-seminar model. Students' perceptions of the module and their own evaluation of their use of learning materials were examined, using questionnaires and interviews. Results indicated a high level of engagement, but lower usage of the theory based learning materials, with preference for practical materials. A slight increase in GPA for the flipped classroom cohort was not statistically significant, and the proportion of high achieving students did not change. However, the module reduced the failure rate to zero, indicating that this approach particularly benefits weaker students, while not reducing the performance of abler students.

Plenary Session 9: Language Learning Technologies

IMPACT ON STUDENT MOTIVATION OF INTEGRATING GOOGLE DOCS WITHIN A REMEDIAL ENGLISH WRITING CLASS

Wessam Al-Chibani, Notre Dame University – Louaize, Lebanon

Integrating communication technology is invading the classroom in the new education era. New teaching approaches, especially those focusing on constructivism, stress the positive impact technology has on student motivation, which in return enhances their achievements and abilities. This inquiry, a qualitative research study conducted in a private university in Lebanon, deals with the integration of Google Docs in an English writing class. The results show that, by introducing Google Docs, there was great impact on the students' motivation, writing skills, and attitude towards the English language in general. Students using Google Docs gained higher confidence and scores when they started reading the teacher's feedback on the Docs and working accordingly and had positive attitudes towards the collaborative writing process that used Google Docs.

USING CORPUS LINGUISTICS TOOLS TO HELP TRANSLATION STUDENTS CREATE TECHNICAL GLOSSARIES

Alexandre Trigo Veiga, São Paulo Catholic University – Associação Cultura Inglesa São Paulo, Brazil

The creation of glossaries might become an arduous task if translation students rely simply on document analysis in order to choose the keywords to be included in their lists. This research project was carried out with the goal of developing techniques for identifying terms from a specialized field, by using both Portuguese and English comparable corpora, as well as computer tools designed for linguistic analysis. This method was based on corpus linguistics approaches, and the specific area in this study is Symbolic Freemasonry. The compiled corpora for this study were manuals and rituals used by freemasons during their meetings.

AVATARS IN LANGUAGE LEARNING

Vera Menezes , Federal University of Minas Gerais, Brazil

This paper presents the concept of the avatar and some of its uses in education, especially in the teaching of additional languages. A case study shows that a group of students using avatars to make personal presentations replicated many of their personal features and demonstrated a preference for

synthesized voice. As to general personal introductions, the most recurrent features were: openings with a greeting followed by their names, course identification and semester or year. At the end of the text, I present further suggestions for the use of avatars in the teaching of additional languages.

15:30 – 17:30 Graduate Student Award Symposium

EVALUATING ICT INITIATIVE IN SCHOOLS IN NORTHERN KENYA: EXPECTED FAILURES, UNINTENDED CONSEQUENCES
Yein Suh, Teachers College, Columbia University, United States of America

This study investigates changes that teachers and schools in the village of Korr, Kenya have experienced as a result of the introduction of the information and communication technology (ICT). Based on data from surveys and interviews, it identifies the meaning of technology integration in education on the ground, by analyzing teachers' technological use and their perceptions of using technology for education. Revealing a considerable gap between what is locally applied and what is globally perceived in terms of ICT integration in education, this research contributes to the dialogue that emphasizes local meaning of global agendas and advocates for local voices.

TEACHING IN IMMERSIVE VIRTUAL WORLDS: CONCEPTUAL CHALLENGES AND OPPORTUNITIES
Claire Englund, Department of Education, Umeå University, Sweden

The immersive and social affordances of virtual worlds offer many new opportunities for educators but also challenge established teaching practices in higher education. This study describes the experiences of eight teachers from the fields of Pharmacy and Nursing who have chosen to implement immersive virtual worlds in their courses. Results indicate that the immersive, social nature of the environment challenges teachers' conceptions of teaching and learning, requiring a student-centred approach to design and implementation of activities.

GeNIE: A PORTAL FOR GAMIFICATION OF HIGHER EDUCATION
Çağrı Çubukçu, Lizbeth Goodman, and Eleni Mangina, University College Dublin, Ireland

Gamification is the usage of game elements in non-game environments like education, business, sales and marketing. in the last decade, educators began to investigate the effects of different gamification elements within the context of education. Existing research revealed the errors in the methods of majority of studies in the area of gamification of education. The actual reason behind the issues in the existing literature is quite simple; the shortage of computerized support. This project aims to provide a solution to this shortage by creating a modular and platform-independent system for gamifying university-level education through Java-related technologies.

SATURDAY

10:00 – 11:30 Concurrent Sessions 10-12

Plenary Session 10: Teachers and Training

IMPLEMENTATION OF THE NATIONAL ICT PLAN FOR THE 21ST CENTURY AMONG ARAB TEACHERS AS A RESULT OF READINESS TO CHANGE, ICT PROFICIENCY AND DEMOGRAPHICS
Zuhaira Najjar, The Arab Academic College for Education in Israel, Israel

This study examines correlations between readiness to change among Arab teachers, their proficiency in ICT as well as their demographic characteristics and the extent to which the National ICT plan for the 21st Century is implemented. Findings show significant correlations between the study variables while the perception of change efficacy to change and the value of the change to the organization are key factors that affect positively ICT proficiency and the implementation of the program. However, ICT proficiency is the main factor that predicts largely the degree of implementation among Arab teachers at elementary schools.

ICT USE BY SCHOOLS IN KOTA SALATIGA, CENTRAL JAVA
Dharmaputra T. Palekahelu, Satya Wacana Christian University, Indonesia
John Hunt, Consultant: ICT in learning, Rose-Marie Thrupp, University of the Sunshine Coast, Australia

This research sought to identify the range of information communication technologies (ICT) accessed and used by students in Kota Salatiga (Central Java). The study endeavoured to fill a research gap about how ICT is used in Indonesian schools. The instruments developed are seen as tools for use in developing countries. The survey collected data that was quantitative and qualitative. The research questions investigated were:
1. What is the range of ICT presently used in schools?
2. How are ICT used? What is the frequency of their use?
3. What ICT would students like to use in classes?

OPEN WINGS II: TOWARDS THE DEVELOPMENT OF THE GREATER SENSE OF SELF
Nancy Pyrini, 1st Primary School of Rafina, Greece
Evangeline Marlos Varonis, Hiram College, Orestes Varonis, Varonis NDE Consulting LLC, United States of America

This paper presents the "Open Wings II" project, which is the continuation of an effort started in 2012 to create a community of self-directed learners in elementary education and to enhance their homonymy, the meaning they derive in life by being and feeling part of a greater whole. The students have been able to embed themselves in contexts that contribute to homonymous identification and development with an interdisciplinary approach.

Plenary Session 11: Developments in ICT

THE DEVELOPMENT OF A SOCIAL NETWORK TO SUIT USC STUDENTS` PROFILE

Igor Fastroni Corrêa, Elvio Gilberto da Silva, and Patrick Pedreira Silva, Universidade do Sagrado Coração, Brazil

With the advent of information and communication technologies (ICT), the education panorama has been changing every day. It is observed that, due to the increasing need of the use of technological tools, teaching and learning change. This research resulted in the development of a social network prototype -- a mobile application for the Android platform -- aiming to help the integration of students, giving them the opportunity to meet according to the degree of relevance. The application enables the interaction with professors by sharing information, projects, courses and other services offered by the university.

DEVELOPMENT OF A MULTIPLATFORM COMPUTER ALGEBRA SYSTEM TO SUPPORT THE TEACHING OF MATHEMATICS

Victor Fernando Conti, Elvio Gilberto da Silva, Patrick Pedreira Silva, and Rosane Maria Lima Araújo, Universidade do Sagrado Coração, Brazil

Nowadays, it is common for teachers to hear from students complaints about math. They also show a great lack of interest in this subject, which is the basis of the scientific growth of a country and enhances the individual`s logical reasoning, critical thinking and investigative habits. There is a variety of software focused on the field of mathematics; however, many people use the computer only as a teaching machine, arranging the content to be taught to the student in a convenient way. This paper aimed at the development of a computer algebra system to support the teaching of mathematics, using the computer as an incentive for learning.

THE DEVELOPMENT OF A CHATTERBOT FOR ENVIRONMENTAL EDUCATION

Vinicius Tonelli De Oliveira, Elvio Gilberto da Silva and Patrick Pedreira Silva, Universidade do Sagrado Coração, Brazil

With the accelerated growth of cities around the world, the need of learning about our environment becomes inevitable. in the face of such a situation, it would be of great importance to implement an educational software, easy to use and understand, so that children and adolescents could acquire an awareness in a practical and objective way. On this basis, the present research is aimed the development of a computational tool – a Chatterbot, with an educative and informative potential that has information related to Environmental Education as knowledge base.

WORKSHOPS

DIGITAL LEADERS ACROSS BOUNDARIES

Facilitators:
Neil Smith, The Open University
Helen Caldwell and Emma Whewell, University of Northampton, United Kingdom

This workshop shares ideas and practice from a project aimed to develop and deploy a cohort of volunteer student digital leaders to provide impetus to technology initiatives across the University of Northampton and in local schools, drawing on innovative approaches to learning from a European

and USA perspective. Digital leaders are volunteer students who are competent and comfortable in the use of technology and who can help others, such as peers, pupils, teachers and lecturers, to make effective use of technology. Our digital leaders took part in a pilot eTwinning for ITT project with peers in Iceland and Denmark, and they helped to introduce the concept of *Digital Playdates* into the UK for university staff, students and invited local teachers.

We will explore the successes and challenges of working with a group of student volunteers across an international context, and in local university and school settings. We will consider their impact within the university and local schools, and how the students themselves learnt transferable skills such as intercultural awareness and digital literacy. Our preliminary findings are drawn from interview and survey feedback from our student volunteers and from the learners and educators with whom they have been working. This is supplemented by individual reflections and projects documented on the project blog (https://mypad.northampton.ac.uk/digitalleaders).

Our workshop will model the use of Digital Playdates as learning with technology events, which may be facilitated by Digital Leaders and aimed at a range of audiences. A Digital Playdate is a chance to find out about some technologies you are curious to try through hands on play alongside others. It is based on the aphorism "People Learning and Asking Y." Participants engage in playful exploration with their peers and leave with some fresh skills that they are confident to try out with their learners. We will show how social media and online collaboration tools can help to capture everyone's ideas before and after the event so that participants have something lasting to take away.

ICT'S ROLE IN REACHING THE UN'S 2030 SUSTAINABLE DEVELOPMENT GOALS (SDG)
Facilitators :
Marcie Boucouvalas, Virginia Tech, National Capital Region, Falls Church, VA
Linda Morris, Adult Development Associates, Portland, ME
United States of America

Objectives:
At the end of the workshop, participants will be able to:

• Identify key documents critical to understanding what the SDGs are and actions that have been and will need to be taken to support reaching them.
• Increase their understanding of key issues, resources and tools in order to serve as catalyst to their county, region, community or organization to move forward on SDGs.
• Increase their understanding of the work of the WSIS (World Summit on the Information Society) in relation to the SDGs.
• Participate in a dialogue on the interrelationship between SDGs, ICT and the UN's recently published *Rethinking Education* (2015) and its implications for ICT Professionals.
• Consider ways to mobilize their own and others' actions to advance SDGs (continuing after the conference via network begun during the session, replete with contact information for all participants).

Methods:
• Brief beginning lecturette with audience participation to develop a common context
• Small group interaction
• Facilitated discussion and dialogue
• Handout listing resources and tools

Outline:
Introductions: Our names, countries, roles as ICT professionals (or other professional) and reasons for being here. Development of a contact list of workshop participants for future networking.

Context: Historical perspective on the Sustainable Development Goals (SDGs), the World Summit on the Information Society (WSIS) and evolving view of 21st century education. Includes spotlight on three recently developed resources:

- A matrix developed by the International Telecommunication Union (ITU) linking SDGs with WSIS Action Lines Success Stories
- Intel's *SDG ICT Playbook: From Innovation to Impact*
- *Rethinking Education: Towards a global common good?* (UNESCO, 2015, launched April, 2016). Sequel to previous landmark UNESCO publications: *Learning to Be: The world of education today and tomorrow* (1972) and *Learning: The treasure within* (1996). From Foreword (Irina Bokova, Secretary-General, UNESCO): "Education is key to the global integrated framework of sustainable development goals. Education is at the heart of our efforts both to adapt to change and to transform the world within which we live. A quality basic education is the necessary foundation for learning throughout life in a complex and rapidly changing world. … we must think big again and re-vision education in a changing world. For this, we need debate and dialogue across the board, and that is the goal of this publication – to be both aspirational and inspirational, to speak to new times" (pp. 3-4).

Small group work to explore questions for needed clarification, elaboration, and generate further comments, followed by dialogue regarding next steps beyond the workshop to follow-up with action steps.

INDEPENDENT-INDIVIDUAL, INCIDENTAL ACQUISITION AND THE MOVE AWAY FROM FORMAL LEARNING

Facilitator:
Ġorġ Mallia, University of Malta, Malta

Objectives:
To analyse in discussion the steady move away from formal acquisition of learning facilitated by the rise in online immersion and mobile connectivity.

Methods:
A brief presentation will be given by the facilitator on how independent-individual, incidental learning is slowly becoming the norm for many youngsters, and a set of buzz group discussions will analyse a number of questions related to the effects of this phenomenon on formal education. A plenary session will present and discuss outcomes.

Outline:
Mobile connectivity has increased online immersion, with data on the go providing an omnipresent source of provision for information-hungry users. This results in random incidental acquisition that would contribute quite extensively to independent-individual learning were there to be an individual- and/or institution-driven organisation of what is acquired, and a skill-base to direct learning to connected ends. However, though this organisation is often missing, the individual/incidental acquisition is being deemed enough by many, precluding the uptake of formal learning. This is compounded by the fact that employment in, for example, the IT industry often demands experience and individually acquired proficiency over academic qualifications. Also, by the fact that many teaching institutions have found it difficult to take individual/incidental learning on board in formal course-work, in the main because of difficulties with assessment procedures. How can independent-individual, incidental acquisition be harnessed in a formal or semi-formal way to enhance the learning capabilities of individuals? A number of suggestions have been put forward by the literature, not least George Siemens' seminal 2003 *connectivism* approach. There have also been discussions about a dedicated type of hybrid learning, which moves away from the blended concept

implicit in formal distance coursework, to accept input from incidental learning. This workshop aims to discuss the implications and possibilities of a phenomenon the growth of which is commensurate with the meteoric advancement of technology.

ROUND TABLE DISCUSSION ON INTERNATIONAL FUNDING OPPORTUNITIES

"OrCheSTra: OROPOS - CHESHIRE - SAMOS TRAINING ALLIANCE II": AN ERASMUS+ MOBILITY PROJECT FOR VET LEARNERS AND STAFF
George Sarrigeorgiou, Technical Vocational School Markopoulou-Oropou, Greece

The project concerns the consortium of four vocational training schools: Markopoulou-Oropou, the coordinator of the project, Mavrogeneios Vocational School of Arts, Vocational School of Karlovasi Samos and Vocational School of Municipality of Vathi – Samos, aiming at implementing a Learning Mobility of VET Learners in a leading educational institution, the South Cheshire College (SCC), based in Crewe in the United Kingdom.

SCC offers the students of the four Greek schools the opportunity to specialize in a certain theme as well as to practice in businesses from their wide network of cooperators that has been developed by the International Office of the College. The available thematic units are in the field of Engineering: *U1 Engineering Project*, *U2 Computer Aided Drafting in Engineering, CAD*, *U3 Automotive,* and Informatic: *U4 Game Development, U5 Web Authoring & Web Management*. There is also a common unit for all specialties entitled *Employability*, which concerns the empowerment of the ability of the students to enter labor market.

The project's pedagogical framework rests on UNESCO's five pillars of learning for Education for Sustainable Development (ESD) and includes specific learning objectives for each thematic unit. These contain objectives concerning the cultivation of skills for specific practical tasks as well as social skills relevant to the students' behavior, communication and cooperation skills, which are highly placed in modern working environments. Also included are objectives towards the growth of students' imagination and creativity, the development of value systems and work ethics, as well as the development of various aspects of their potential. An ascendant goal concerns their ability to transform themselves and to be the carriers of change in their schools and the local communities. Furthermore, the project seeks to enforce the students' European consciousness and to lead them to exploit the opportunities and the rights given by their European identity.

Participants are 40 students from the VET Schools of the consortium, 16-19 years of age, as well as adult students holding a degree, seeking for a second one or at work seeking to certify and to validate the knowledge gained at their work environments through lifelong learning.

The project includes: pedagogical preparation activities of the learners in the field of the thematic unit; language preparation in terms of the terminology of the thematic unit, as well as daily communication; preparation as regards the safety rules and work ethics that apply according to the current legislation during their practice in the businesses; and cultural preparation especially as regards differences that the students must keep in mind while in the United Kingdom.

Two flows will follow of 20 students participating in each. During their stay at SCC students attend the theoretical courses of the selected thematic unit as well as the common unit, participate in workshops and practice at the local businesses where they will be placed. Post-flow they complete and submit their projects, which they exhibit at a Digital Exhibition. Two seminars are organized in Oropos and on Samos island, for the presentation of the students' works, the dissemination of the project outcomes and the advising of the general public of the opportunities Erasmus+ offers.

The expected impact on students is summarised as follows: improve their knowledge in the specific technical subject of the thematic unit they took and their skills in practical and social level using ITs; gain a whole view on living and working in a European Union country, which helps them to also improve their work profile; become aware of their European identity; and exploit the working rights they have as European citizens.

The main impact for the members of the consortium as well as their local communities is the internationalization of schools and the experience the teachers obtain through their participation in the project, which may be transferred in the future in other European projects or other smaller or wider projects at a national or international level. Eventually, what counts most is the process and the "know-how" gained by those involved that can be diffused in future efforts.

You may follow the development of our project on social media: Facebook, Google+, and Twitter--hashtag: #orchestra II. and, as in every great OrCheSTrA, it's the quality, the dynamics, the timing and cooperation that makes the difference!

ROCKS IN THE RIVER: EXPLORING THE USE OF EDUCATIONAL TECHNOLOGY
Facilitator:
Greg Anderson, Justice Institute of British Columbia, Canada

This session will explore the range and diversity of teaching and learning activities we use in our everyday activities. The centre-piece of the activity is identifying the teaching and learning tools used by you and by others in your institution that you know of and placing these within a framework to explore gaps and places for future work and consideration. in preparation for this session we ask you to take five or ten minutes and make a list of activities to bring to the session (this will work much better if you actually write down the list and physically bring it). The list should contain as many different learning activities as you can think of that are used in teaching-learning. Join us for a fun exploration of common practices and how these may lead to transformative learning.

Full participation is required.

COMPUTING UNPLUGGED: SOME PRACTICAL IDEAS
Facilitators:
Neil Smith, The Open University
Helen Caldwell, University of Northampton
United Kingdom

Objectives:
To demonstrate, explain, and share ways that "unplugged" activities can be used to teach computing concepts.

Methods:
This will be a hands-on workshop where participants will engage in some of the activities, then discuss their relevance and ability to transfer to different contexts.

Outline:
Many ideas and concepts in computing do not require a computer to understand, and the introduction of technology can sometimes distract learners and obscure the computational concepts being developed. Computing unplugged is a general approach to teaching computational thinking skills away from a computer. This workshop will illustrate a range of computing unplugged activities that

can be applied to a range of learning settings and that develop a range of computational thinking skills.

The workshop will show how the computational thinking concepts of logic, algorithms, decomposition, pattern-finding, abstraction, and evaluation can be illustrated and explored through a number of physical and paper-based activities. The activities explored in the workshop are organised around the themes of robots, musicians, artists, explorers, codebreakers, magicians, gamers, cooks, and scientists.

Optimum Number of Participants: 6–20

POSTERS

AN ITINERARY ABOUT THE PORTUGUESE MARITIME DISCOVERIES: A MOBILE LEARNING RESOURCE FOR CHILDREN
Cláudia Faria, Instituto de Educação, Universidade de Lisboa, Portugal

in this work we present a digital itinerary about the Portuguese Maritime Discoveries, created around the city of Lisbon. This itinerary includes different spaces of action within the city: monuments, historical places, and museums associated with the maritime discoveries and the exchange of cultures (e.g., Oriental Museum, Aquarium Vasco da Gama, Planetarium Calouste Gulbenkian). The itinerary is offered in digital format, through the creation of a virtual application that can be downloaded on any mobile technology (mobile phones, PDAs) and is directed to children. It could be used both in formal and informal learning contexts, namely by a teacher with his/her class, or by families with small children. With this project we intended to promote the valorization of the identity, cultural and patrimonial resources related to the Portuguese Maritime Discoveries. To achieve these goals, we created a set of *exploration stations* related to the following dimensions:

*   *The city in the time of the discoveries* - aspects related to the history associated with the period of the discoveries (3 stations)
*   *A city of peoples and cultures* - aspects related to cultural diversity and exchanges associated with the maritime journeys (3 stations)
*   *From land to the sea* - aspects related to navigation and orientation by the stars (2 stations);
*   *Monsters and other sea life* - aspects related to marine biodiversity in the different oceans explored by the Portuguese sailors (3 stations)

We tested the itinerary with seven different classes, from the 4th and 5th grade (9 to 12 years old), and we present teachers' and students' appreciation of this type of mobile learning resource, taking into account the main difficulties encountered and the potentialities that the application presents in terms of learning and motivation to learn.

The project (PT02_2ºRPS_0017) was funded by eea-grants (Direção-Geral de Política do Mar).

TOWARDS POSSIBILITIES FOR TECHNOLOGY ENHANCED LEARNING AND SCHOOL CHANGE: THE UPTAKE AND USE OF DIGITAL TECHNOLOGIES IN A ONE-TO-ONE INITIATIVE IN TWO SCHOOLS
Marcia Håkansson Lindqvist, Department of Education, Umeå University, Sweden

While digital technologies have rapidly spread through society as a whole, these technologies have been slower to gain foothold in schools. The uptake and use of digital technologies and the

conditions for Technology Enhanced Learning (TEL) and school development were studied in the research project Unos Umeå, a joint One-to-One (1:1) research project between Umeå University and the municipality of Umeå in Sweden. How students, teachers and school leaders in two schools, an upper-secondary school and a compulsory school, worked with digital technologies in practice was studied using surveys, interviews, and observations. The Ecology of Resources Model (Luckin, 2010) was used as a theoretical framework for analysis. The results for the third phase of the research project, the first two years, showed possibilities for students in accessing information, producing professional texts and work variation in the classroom. Teachers saw possibilities in new methods of teaching, opportunities for professional development, collaboration and individualizing teaching for students. School leaders saw possibilities in increased teacher collaboration, documenting best practice and following up students' and teachers' work. The challenges, for all perspectives, were related to use, technical support and optionality. It was concluded that, if the possibilities related to the uptake and use of digital technologies are to be achieved, there is a need for continued professional development for teachers and school leaders. Practical implications may include teachers' improved skills to integrate digital technologies, therefore supporting students' use and in turn equality of digital competence. Preliminary findings for the fourth and final phase of the project will also be presented.

A BOOT CAMP EXPERIENCE TO EDUCATE SOFTWARE SKILLS FOR DEVELOPING SMARTPHONE APPLICATIONS

Dong Jin Kang, Yeungnam University, South Korea

A lot of mobile applications are developed daily and posted for sale in various mobile stores. There are many ways to develop mobile apps. Many students do not know or feel uncomfortable in learning a software skill for doing so. App Inventor for Android is an open-source web application originally provided by Google, and now maintained by the Massachusetts Institute of Technology (MIT). This is one of the simplest tools to develop a mobile app. This is especially useful for students who are not majoring in computer science and/or engineering. A boot camp was designed for non-computer science students to provide an experience of developing a mobile app. It was evaluated as a useful education format to teach software skills for non-computer science students.

Reference
http://appinventor.mit.edu/explore/

INFORMATION COMMUNICATION TECHNOLOGIES AS A PEDAGOGICAL STRATEGY IN ENGLISH LANGUAGE LESSONS: A CASE STUDY APPROACH

Mirelly Karolinny De Melo Meireles, Instituto Federal De Educação, Ciência E Tecnologia Do Rio Grande Do Norte/ Campus Caicó, Brazil

This work consists of a case study approach in English language lessons, and it was performed at Instituto Federal de Educação, Ciência e Tecnologia do Rio Grande do Norte (IFRN)/campus Caicó/ Brazil. The participants were students from the 2nd grade of high school. The objective of it is to present and to implement a teaching methodology that uses information communication technologies in English language lessons. in this study, we discuss theoretical aspects related to information communication technologies and the teaching of English Language (Araújo, 2007; Brown, 2007; Celani, 2003; Costa, 2013; Ganito, 2007; Geddes, 2004; Kukulska-Hulme, 2009; Paiva, 2001; cf. Santos, Beato, & Aragão, 2012). Thereby, activities were conducted using a blog, in addition to the use of mobile phones. Such activities were applied in a high school group, and 25 students took part in it. Initially, it was decided that a theme would be worked on throughout the quarter – countries that have English as first language. After that, numerous activities – Quiz, QRcodes,

listening comprehension activities, forums, and others - were organized with this main theme, and also used was a blog created by the students and the cell phone as a tool of English learning. There were a total of 8 (eight) lessons and, at the end of them, the students reported their experiences in a notebook; these were being considered as field diaries. Thus, it was noticed that, during each class, students were motivated to carry out the activities, and, in the field diaries it became clear how effective this methodology is, as they reported that they were able to learn the content in a practical way.

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SUPPORTING SAUDI BLIND ADOLESCENTS TO MAKE INFORMED DECISIONS REGARDING THEIR FASHION CHOICES THROUGH THE APPLICATION OF ASSISTIVE TECHNOLOGIES
Sabriyyah Ogli, Southampton Solent University, United Kingdom

This poster illustrates my research into the fashion and clothing perceptions of blind adolescents in Saudi Arabia, with the aim of enabling them to make independent fashion and clothing choices supported by assistive technologies.

This study investigates the development of blind adolescents in order to: (a) understand their perceptions of fashion and clothing; (b) recognize the importance of fashion in blind adolescent development and offer support through the creation of a specialized guiding system. The study will investigate the ways in which blind teenagers interpret and respond to colour, fabric, size and shape. This research will increase awareness of blind consumers of fashion in the Saudi market, thus having a positive effect on local economics and helping fashion brands in the country improve their marketing strategies targeting blind consumers of fashion.

Therefore, the central aim of this study is to create a specific fashion guiding system that will enable

Saudi Arabian blind adolescents to independently make informed fashion choices. To this end, the study focuses on the methodological integration of textual knowledge, which will assist in the creation of a set of tools to be used by the stated age group.

The study concludes by generating new insights into how fashion is mediated and exchanged in a blind context, leading to the production of a guide to making fashion and clothing choices for the visually impaired. Linked to an assistive technology, the guide will seek to contribute to the understanding of fashion design among the visually impaired and blind by enhancing their fashion awareness in order to enable them to select their own clothes.

WE LIKE! OTHELLO: PROMOTING AN ENJOYABLE POST-SECONDARY SHAKESPEARE EXPERIENCE THROUGH FACEBOOK

Etienne Zammit and Daniel Xerri, University of Malta, Malta

Post-secondary education is a period when students are able to make independent choices about their academic future not only in terms of which courses to pursue, but also in terms of determining their specific learning needs, their individual learning styles and their targeted learning outcomes. Educators play an important role in this process since they are the ones to establish, foster and maintain a classroom environment that not only respects these choices but also aligns itself to the educator's own pedagogic objectives as well as to satisfy the demands of the curriculum.

The context for this academic poster presentation is a post-secondary course on Shakespeare's play Othello. Lecturers conducting these courses often lament that student choices about their own learning and the strategies they employ to achieve them are usually exam-driven since this is the assessment procedure that determines their eventual entry to tertiary education. This perception is usually based on their personal observations during lectures. in fact, lecturers often claim that students do not read the set play let alone form personal reactions to it. Preliminary research to this poster study also indicates that many do not read Shakespeare for their own pleasure.

This poster presents a teaching resource that utilises a Facebook page that aims to increase learner motivation by changing the context through which lectures on Shakespeare are carried out and allows learning to become more learner-centred. It is safe to assume that contemporary are generally very familiar with the use of this technology and Facebook is a platform they use to be part of the 'world'. The poster replicates a Facebook page and uses this familiar visual format to illustrate how this online technology can be exploited as a teaching and learning tool. The title of the poster itself is embedded in the page as the main 'post' and the 'comments' and further posts will contain brief explanations of how the page's functions and hyperlinks can present innovative ways to make reading as well as studying a Shakespearean play a more enjoyable experience.

A STUDY OF LEARNING ACHIEVEMENT, LEARNING RETENTION, AND SATISFACTION OF GRADE 6th STUDENTS USING INFOGRAPHIC MULTIMEDIA WITH AN INTERACTIVE COMPUTER GAME

Sopon Meejarleurn, Piangpen Jirachai, and Nattakorn Kraisri, King Mongkut's University of Technology Thonburi, Thailand

This research aimed to create and to evaluate infographic multimedia with an interactive computer game on the topic *Substance and Conversion* and to study learning achievement, learning retention, and satisfaction of the students toward infographic multimedia with an interactive computer game. The 40 participants were a simple random sample from grade 6 students of Tesabaan 2 School (Sahakorn Somtob), Nakonratchasima. The study found that the content gained the quality at "very

good" level, and the media production gained the quality at the "good" level. The posttest score of learning achievement was significantly higher than the pretest score at the level of .01. The learning retention of the students was not different, and the satisfaction of the students to the infographic multimedia with interactive computer game was at the "most" level.

THE DEVELOPMENT OF AN INTERACTIVE DIGITAL BOOK ON A TABLET PC FOR THE SUBJECT OF MASS MEDIA FOR THE BACHELOR STUDENTS AT KING MONGKUT'S UNIVERSITY OF TECHNOLOGY, THONBURI

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This research was aimed to develop and examine the quality of an interactive digital book on a tablet PC for the subject on mass media for the bachelor students at King Kongmut's University of Technology Thonburi and to find out their learning achievements before and after using the interactive digital book. Moreover, it was aimed to explore the students' satisfaction towards the interactive digital book. The sampling group consisted of 30 second-year undergraduate students from the Department of Educational Communications and Technology, King Mongkut's University of Technology Thonburi. They were chosen using the purposive sampling method. The tools in this study were the interactive digital book on a tablet PC, the learning achievement test, and the satisfaction survey questionnaire. The data were analyzed using mean score, standard deviation and dependent t-test. The results show that the quality of the interactive digital book on the tablet PC was at a very good level with a mean score of 4.60 and standard deviation of 0.42. in terms of the learning achievements, the post-test score was higher than the pre-test score with a statistically significant difference at the .05 level. With regard to the satisfaction, the sampling group expressed a high level of satisfaction towards the interactive digital book on a tablet PC with a mean score of 4.49 and standard deviation of 0.46. It can be concluded that the interactive digital book on a tablet PC for the subject on mass media can be used in practice.

THE DEVELOPMENT OF AN INFOGRAPHIC FOR LEARNING ENTITLED "UPDATE NEWS RELEASE" FOR THE INTERNAL PUBLIC RELATIONS OF MCOT PUBLIC COMPANY LIMITED

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This research was aimed to explore the demand for an infographic for learning entitled "Update News Release" for the internal public relations of MCOT Public Company Limited in order to find out the quality as well as the learning achievements and to examine the satisfaction of the sampling group. The tools in this study comprised the infographic for learning entitled "Update News Release," the quality assessment form, the learning achievement test and the satisfaction survey. The sampling group in this study consisted of 30 persons (both working staff members and student interns) during the past 3 years from MCOT PCL. They were sampled using the purposive sampling method based on the fact that they had used the manual "Update News Release" before. The research findings show that the whole sampling group (or 100%) wanted the infographic for learning. of the thirty, 28 persons or 93.3% would prefer cool colors whereas 16 persons or 55.2% would prefer simple tones; 24 persons or 80% would prefer music added to the infographic for learning whereas 20 persons or 66.7% did not want a narrator in the infographic for learning; and 21 persons or 70% wanted to use a modern infographic for learning. According to the survey on user demands for an infographic for learning entitled "Update News Release" for the internal public relations of MCOT PCL based on the expert panel, the quality of content was at a very good level (=4.53, S.D.=0.48) while the quality of media presentation was at a very good level (=4.67, S.D.=0.24). There was a statistically

significant difference between the pretest and the posttest among the sampling group at the .05 level. The sampling group expressed their satisfaction at the highest level (=4.78, S.D.=0.49). Therefore, the infographic for learning entitled "Update News Release" was of high quality and could be used in the future.

DEVELOPMENT OF EDUCATIONAL GAMES ON LEARNING ANALYTICAL THINKING WITH FLOWCHARTS FOR GRADE 7 STUDENTS OF PROMMANUSORN PHETCHABURI SCHOOL

Sakesun Yampinij and Montarop Singtokasem, King Mongkut's University of Technology Thonburi, Thailand

The objectives of this research were to: (a) create and validate educational games on learning analytical thinking with flowcharts, (b) investigate the efficiency of educational games, (c) study the learning achievement of the students, and (d) study the satisfaction of the students who studied using the educational games. The population of this study was 30 students of grade 7 of Prommanusorn Phetchaburi School who were studying a computer science course in the 2nd semester of Academic Year 2015, the Secondary Educational Service Area Office 10.

The results of this research revealed that educational games in learning analytical thinking with flowcharts created reached a high level of content quality ($\bar{X}$=4.53, S.D.=0.24). Media quality was also at a high level ($\bar{X}$=4.53, S.D.=0.24), of which the efficiency was 81.68/81.50, which was equal as the set criteria. The result of the post-test was significantly higher than that of the pre-test at the level of 0.5. The students' satisfaction on educational games was high (μ=4.39, σ=0.10). As a result, conclusions were that educational games were at a high quality level and could be employed in developing and increasing learning achievement.

Photo: Marie Louise Kold

Sunday July 10
Day Trip to Lindos

www.rodos.org.uk

Lindos, a striking jewel on the east side of the island brags of its history. Above the modern town rises the acropolis of Lindos, a natural citadel which was fortified successively by the Greeks, the Romans, the Byzantines, the Knights of St John and the Ottomans. This makes the site difficult to excavate and interpret archaeologically. The acropolis offers spectacular views of the surrounding harbours and coastline. The narrow cobbled streets take you to the elegant town, filled with small restaurants and cafes offering a fantastic view of the castle and the sea from their terraces, while the fine-sand beach on the rim of Lindos invites you to try some of the warmest waters in the Mediterranean.

Monday July 11
Boat Trip to Symi island

en.wikipedia.org

Symi is one of the most beautiful islands of the Dodecanese group. It has not been affected by mass tourism and still retains the traditional Greek island way of life and hospitality. Once the capital of Dodecanese, Symi became very rich by developing the sea sponge trade. Today the island has around 2500 inhabitants, mostly engaged in tourism, fishing, and trade. On visiting this unique island one can admire the neoclassical 19th century town with its colorful little houses. One can also feel the atmosphere of the island.

Dr Tannis Morgan
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Dr Tannis Morgan is the Associate Dean, Centre for Teaching, Learning, & Innovation at the Justice Institute of British Columbia where she is responsible for developing and implementing an e-learning strategy, and leads educational technology innovation and research projects. These include mobile learning, simulations, open education resources, and emerging delivery models.

bccampus.ca

Tannis began her work in distance education and e-learning with the Distance Education and Technology Centre at the University of British Columbia (UBC), under the direction of Dr Tony Bates and Dr Mark Bullen where she completed her PhD examining online teaching in international distance education contexts. She has worked within the Office of Learning Technology (formally Distance Education and Technology) at UBC, and prior to coming to the JIBC, she was an instructional development consultant at the British Columbia Institute of Technology. She was a researcher with the Digital Learners in Higher Education research project with Dr Mark Bullen and colleagues from the University of Regina and the Open University of Catalonia.

Her current research focuses on student use of technology in applied education institutions and drivers that influence the uptake of open educational resources in higher education. Her ICICTE 2016 keynote speech is about "Future considerations in the adoption of educational technologies".

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