

Editorial on EAIT 2014–2

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This is the second *regular* issue of EAIT for 2014 (– Issue 3 will be a special issue). This issue has twelve articles investigating the use of computers and ICT in education. These include discussion of a wide range of issues related to ICT and education, including: pedagogy, learning styles, blogging, English language learning, in-service education, ‘serious’ games, educational technology adoption, Bioinformatics and Geo-Informatics, knowledge representation, interactive white boards and use of mobile phones.

The first article: *Pedagogy with Information and Communications Technologies in Transition* is by Mary Webb from King’s College London. In the article she presents an analysis of ways in which pedagogy with ICT may need to adapt to accommodate to a major shift in our conceptions of knowledge and learning. The analysis makes use of a holistic approach based on Checkland’s ‘systems thinking’. The article proposes incorporating opportunities for students to engage with self-organizing social systems into pedagogy. This would complement an emphasis on developing and understanding both individual and shared expertise.

The second article is by Jared Keengwe from the University of North Dakota and Farhan Hussein from Lighthouse Academy of Nations, USA. It is titled: *Using Computer-Assisted Instruction to Enhance Achievement of English Language Learners*. The article describes findings from a study of computer-assisted instruction (CAI) in English-Language environments. The study’s findings suggest that students who used CAI had a greater chance of closing the achievement gap and gained better scores in reading and maths.

An in-service training course, (INSET) on ICT pedagogy in classroom instruction for the Greek primary school teachers has been contributed by Nikolaos Amanatidis from London South Bank University, London, and Ministry of Education of Greece. The article outlines how, to meet the increasing demand for change in the incorporation of ICT in education, the Greek Ministry of Education and the Institute of Educational Policy launched a nationwide project of in-service training of teachers in the use and evaluation of ICT pedagogy in classroom instruction. The main focus of the study was to evaluate the implementation and effectiveness of this in-service training in the pedagogic use of ICT in classroom-based instruction.

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Next is an article by Fotis Lazarinis from Teesside University in the UK titled: *A Service Oriented Web Application for Learner Knowledge Representation, Management and Sharing Conforming to IMS LIP*. The article described iLM, which is a Web based application for representation, management and sharing of IMS LIP conformant user profiles. The tool is developed using a service-oriented architecture with emphasis on easy data sharing. The aim of the study was to present the design of the tool and to discuss how it facilitates sharing of learner information with other applications. The tool was evaluated with the aid of educators who encoded the data of a number of learners.

This is followed by: *Personality and Learning Styles Surrounded by W3 software: The Macao Portuguese School Case*, by João Negreiros and Zelia Baptista, from the University of Saint Joseph, Macao, China and Leanda Lee from Monash University, Australia. They describe a study to evaluate how the choice of teaching method can be assisted by knowledge of a student's personality type and learning style. The research was undertaken in the context of Web 2.0 tool use within a Portuguese literature subject in Macao. The Felder-Soloman index of learning style and the Myers-Briggs Type Indicator based upon Jung's theory of psychological nature were used as measures of learning style and personality type with 8th grade students. The article argues that knowledge of a student's personality traits and learning styles may implications for teaching methods.

The next article, by Dominique Verpoorten, Wim Westera and Marcus Specht from the Open University in the Netherlands, and Jean-Loup Castaigne from École Nationale Supérieure d'Architecture de Lyon, France, describes how a short, repeated and structured opportunity to reflect was integrated in the storyline of a serious game in order to stimulate the development of a meta-cognitive skill: the ability to self-assess the degree of confidence in their own answers. *A Quest for Meta-Learning Gains in a Physics Serious Game* describes how with this approach, while the cognitive benefits are negligible, the meta-cognitive gains present a raising tendency. The experiment also demonstrates that reflection does not necessarily hamper the game flow, if certain conditions, discussed in the paper, are met.

Bioinformatics in Middle East Program Curricula—a Focus on the Arabian Gulf by Samia Loucif from AlHosn University in the United Arab Emirates, investigates the inclusion of bioinformatics in program curricula in the Middle East, focusing on educational institutions in the Arabian Gulf. Bioinformatics is an important and multidisciplinary field which has emerged in response to the need for efficient data storage and retrieval, and accurate and fast computational and statistical methods to handle huge amounts of biological data. Although several universities around the world implemented bioinformatics in their undergraduate and postgraduate programs more than a decade ago, the results of the reported investigation show that very few have recently done so.

The next article: *Categories for Barriers to Adoption of Instructional Technologies* by Pat Reid from Purdue University in the USA, notes that although higher education has spent millions of dollars on instructional technologies, often their administrators complain that they are not being adopted. It is important to understand possible barriers in order to develop appropriate goals and sound strategies for adoption. The article describes five categories, based on literature researched: technology, process, administration, environment and faculty. The framework provides institutions with a starting

point to approach adoption of instructional technology with a plan to mitigate and minimize as many barriers as possible, giving adoption a better chance of success.

Stijn Van Laer from KU Leuven in Belgium, Gary Beauchamp from Cardiff Metropolitan University in the UK and Jozef Colpaert from the University of Antwerp, Belgium write on: *Teacher Use of the Interactive Whiteboards in Flemish Secondary Education—Mapping Against a Transition Framework*. The article notes that Interactive Whiteboards (IWBs) are a relatively new, but increasingly more common, tool in Flemish Secondary school classrooms. This article reports on research which mapped the amount of IWB use in Flemish secondary schools and to assess how they are used and the progress of teachers in developing their IWB skills in the classroom. Findings suggest that these teachers have been initiated (in a technological sense) in using the IWB and are beginning to initiate (in a pedagogic sense) wider usage, including incorporating pupil use of the IWB.

Blogging Pragmatics and Pedagogy: An Adventure in Faculty Development by Crystal Ramsay, Destiny Aman and Barton Pursel from Pennsylvania State University, USA, argues that as university faculty are increasingly called upon to teach more students with fewer resources, technology can provide viable solutions to pedagogical dilemmas. With respect to blogs, the typical show-and-tell approach to technology awareness that their faculty development center uses seemed inadequate, given the complexity of blog design, implementation and maintenance. The article describes how the authors found the best way to instruct university faculty in the use of blogs is to give them an opportunity to participate in a blogging community.

Next, Jared Keengwe and Gary Schnellert from the University of North Dakota, and Denise Jonas from Cheney Middle School, West Fargo, USA write on: *Mobile Phones in Education: Challenges and Opportunities for Learning*. The article notes how millennials use mobile phones on a daily basis to keep in touch with family and friends, but that the role of mobile phones in education needs to be close examined as educators strive to incorporate mobile learning devices in the classroom. Their article provides a rationale for the need for administrators to design guidelines for schools planning to adopt mobile phones in their curricula.

The final article: *A New Pedagogical Design for Geo-Informatics Courses Using an e-Training Support System* is by Ahmed SharafEldin from Helwan University, Egypt, Alaa H. ElNahry and Rania Elsayed Ibrahim from the National Authority for Remote Sensing and Space Sciences, Egypt and Adel Elsayed from LSI, Leeds, UK. The reported study introduces a new pedagogical design for geo-informatics courses using an e-training support system based on Laurillard's conversational approach. The implementation of the developed framework needs a special computerized system, so an e-training support system was developed to realize the framework. This is an open source and standard-based infrastructure to enable and foster competence development and exchange of learning activities and learning units.

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