Editorial for EAIT 2016, Issue 5

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This is a much larger issue of the journal of Education and Information Technologies (EAIT) than usual. Interest in EAIT is growing as there is still a considerable demand for research publications in the area of Information Technologies in Education. There can be little doubt that research into this important area of teaching about, and of the use of information technology in education at all levels from pre-school to university around the world is still rapidly growing. One problem with this growth in demand and the number of articles received and those accepted is that the authors' wait for publication of accepted articles is getting quite long. We are working on reducing this waiting time. Since the start of 2016 EAIT has appeared in six issues rather than in its previous four issues per year. From this issue (at least until the backlog of accepted articles has reduced), Springer has agreed that the journal should publish around 20–25 articles in each issue.

The first article in this issue is by Alexander J. A. M. van Deursen, Somaya ben Allouch and Laura P. Ruijter (University of Twente, The Netherlands). Titled: “*Tablet use in primary education: Adoption hurdles and attitude determinants*” it describes a pilot program of six primary schools in the Netherlands in creating an educational environment in which children use a tablet PC. The first study highlights the process by which primary schools adopted tablet PCs and was undertaken by means of interviews based on Diffusion of Innovation theory. In the second study, a questionnaire was administered among primary school children in the pilot schools. The results of these studies provided several recommendations on how tablet PCs can contribute to educational improvements.

Next, “*Didactic and technical considerations when developing e-learning and CME*”, by Ellen te Pas, Margreet Wieringa-de Waard, Bernadette Snijders Blok, Nynke van Dijk and Henny Pouw (Academic Medical Center, University of Amsterdam) looks at usability issues encountered during the design of a blended elearning program for a course in evidence-based medicine for general practice trainers. This article

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describes two of the four steps in the program which focused on which educational principles to apply and which learning theories, instructional designs and other theories should influence the program. It also investigated the design elements including whether to use hypermedia and/or multimedia, and what screen design and which font to use.

The article that follows is by Nikolaos Pellas (University of the Aegean, Greece) and is titled: *“Bolstering the quality and integrity of online collaborative university-level courses via an open Sim standalone server in conjunction with Sloodle”*. The study described in this article investigates interoperability issues focused on the utilisation of the virtual world Open Simulator (Open Sim) in conjunction with Sloodle (Simulation Linked Object Oriented Dynamic Learning Environment) as a free plug-in module. The author suggests that a hybrid platform developed from these can adequately convert the ordinary multi-user virtual world of Open Sim and Sloodle into a common incubator of knowledge for online courses at university level.

“How is language used to craft social presence in Facebook? A case study of an undergraduate writing course” by Jessica Gordon (Virginia Commonwealth University, USA) examines the way social presence was created through original posts and comments in a Facebook group for an undergraduate writing course. The author adapted a well-known coding template and examined how course members: one instructor, two undergraduate teaching assistants and twenty-two students, used language and image to generate social presence. Research results show which social presence indicators are used more frequently by course members and that social presence is higher when certain social presence indicators are utilised.

The next article is by Carme Pinya and Maria Rosa Rosselló (University of Balearic Islands, Mallorca, Spain). *“Using blogs to be aware of the development and adoption of professional skills”* describes the results of a project which aimed to unite the use of blogs with a competency approach. It investigated the design and implementation of a teaching innovation project using blogs to promote development of certain professional competencies and assessed experiences and comments of students regarding use of blogs in a university context. The research showed that university students consider the blog as a tool that enables the acquisition of professional competencies, boosts the teaching-learning process and foment the development of reflection.

“A study of readability of texts in Bangla through machine learning approaches” is by Manjira Sinha and Anupam Basu (Indian Institute of Technology, Kharagpur, India). The authors note that text readability has huge impact on educational content preparation, and advances in natural language processing have enabled automatic identification of reading difficulty of texts and contributed in the design and development of suitable educational materials. Bangla is one of the major languages in India and the official language of Bangladesh but in spite of this, research on text readability in Bangla is still in its nascent stage. The article presents computational models to determine the readability of Bangla text documents based on syntactic properties.

The next article is by Robert A. Ellis (University of Sydney, Australia). Titled: *“Students’ approaches to group work in a blended course, associations with perceptions of the online environment and academic achievement – when is learning engaged?”* it begins by describing how university teachers provided first year Arts students with hundreds of cinematic images online to analyse as a key part of their predominantly face-to-face undergraduate course. The author’s qualitative study

investigates the extent to which the groups engaged in learning involving their analysis of the images and how this was related to their perception of the ICT-mediated environment.

Supachanun Wanapu, Nisachol Chamnongsri, Suphakit Niwattanakul and Nittaya Kerdprasop (Suranaree University of Technology, Thailand) and Chun Che Fung (Murdoch University, Australia) next write on: “*An investigation on the correlation of learner styles and learning objects characteristics in a proposed Learning Objects Management Model (LOMM)*”. They begin by noting that issues of accessibility, management, storage and organisation of Learning Objects in education systems are a high priority of the Thai Government. They discuss a study of a proposed Learning Object Management Model which aims to adapt and optimise the learning process based on characteristics of individual learners which aims to find the correlation between learning styles and learning object characteristics in the LOMM. Decision Tree and Apriori algorithms were used to generate a predictive model for the classification of learners.

“*The influence of prior knowledge and viewing repertoire on learning from video*” was contributed by Jelle de Boer and B. de Brock (University of Applied Sciences, Groningen), Piet A. M. Kommers (University of Twente) and Jos Tolboom (Netherlands Institute for Curriculum Development) all from the Netherlands. Their reported study investigated whether student learning effects are influenced through instruction about other viewing behaviours, and whether these learning effects depend on their prior knowledge. In the study students watched a number of instructional videos about the technical equipment needed in a course on digital photography and every second student was told about other possible viewing behaviours. The differences with respect to the learning effects of students who received an awareness instruction on an alternative viewing strategy were not significantly different.

“*Personal voices in higher education: A digital storytelling experience for pre-service teachers*” by Aslihan Kocaman-Karoglu (Gazi University, Ankara, Turkey) points out that digital storytelling that involves a combination of media and technology with traditional storytelling to help students learn, has recently emerged as a new tool in instructional environments. This article examines the use of digital storytelling in a university course and pre-service teachers’ perceptions of their learning experiences using this tool. The study findings indicate that digital storytelling is useful for learning and serves as a practical learning tool to present the students’ personal experiences to others.

Tiago Freire (International Business School Suzhou, Xi’an JiaoTong-Liverpool University, China) and Jingping Li (Shandong University, China) then present an article titled: “*Using Wikipedia to enhance student learning: A case study in economics*”. Due to the current widespread interest in how Web 2.0 tools can be used to improve students’ learning experiences, a number of studies have focused either on the advantages of wikis or on concerns over the use of Wikipedia. Their study used Wikipedia as a classroom wiki to see if students could improve their standard written assignments using Wikipedia instead of a module wiki. The results showed a large increase in the number of students checking their assignment feedback and that students’ writing quality improved noticeably in the Wikipedia assignment.

The article that follows is by Tali Heiman and Dorit Olenik-Shemesh (The Open University of Israel): “*Computer-based communication and cyberbullying involvement*

in the sample of Arab teenagers”. Their reported study examined the characteristics of involvement in cyberbullying among 114 adolescents in the Muslim Arab sector, and its relationships with emotional aspects. Results show that more students experience cyberbullying (82 %) than face-to-face bullying (42 %), and the students who were cybervictims reported higher levels of loneliness and anxiety.

“Investigating the structural relationship for the determinants of cloud computing adoption in education” proposes extending the Technology Acceptance Model to integrate subjective norm, perceived convenience, trust, computer self-efficacy and software functionality in order to better understand the degree of influence that each has on the adoption of cloud computing in an educational setting. Veera Bhatiasavi and Michael Naglis (University International College, Thailand) developed an instrument from past studies on technology adoption and collected data from two universities in Thailand. Their research investigates which of these factors have a statistically positive relationship towards the adoption of cloud computing.

Following is an article by Saeeda Naz, Arif I. Umar and Syed H. Shirazi (Hazara University, Pakistan), Saad B. Ahmed, Muhammad I. Razzak and Imran Siddiqi (King Saud bin Abdulaziz University for Health Sciences, Saudi Arabia) titled: “Segmentation techniques for recognition of Arabic-like scripts: A comprehensive survey”. The challenging nature of Arabic script recognition has attracted the attention of researchers from both industry and academic circles but these efforts have not achieved good results until now. This article describes a study that investigated recent work for character segmentation and challenges for segmentation for Arabic script-based languages.

“Breaking through: Using educational technology for children with special needs” is by Lori Glaeser (Boise State University, USA). This article describes a book of this title (by Barbara Albers Hill), marketed as a tool providing assistance with use of educational technology as it relates to children with special needs. Specific special needs, such as children with Autism and Attention Deficit Hyperactivity Disorder, however, leads readers to believe the book will provide detailed information on how educational technology will assist a child according to each specific need. Review of the content suggests that the book is less about detail and more about a shopping guide for the consumer as to the best tablet to select for children with special needs.

“School choice considerations and the role of social media as perceived by computing students: Evidence from one University in Manila” is a descriptive study that utilised a validated questionnaire that gathered data from students of two different school years. It was reported by Rolando R. Lansigan (National University, Manila), Shirley D. Moraga, Ma. Ymelda C. Batalla and Rex P. Bringula (University of the East, Manila), all from the Philippines. Their study revealed that there were similarities and differences in the data in terms of demographic profile, marketers, influencers, level of school choice, and level of consideration in deciding to enrol in the university. It was also shown that social media served as a popular and effective marketer, but that its influence to persuade the respondents to enrol in a school was minimal.

Next, Ali Tarhini (Brunel University London), Timothy Teo (University of Macau, China) and Takwa Tarhini (Texas A&M University Qatar, Doha) write on: “A cross-cultural validity of the E-learning Acceptance Measure (ElAM) in Lebanon and England: A confirmatory factor analysis”. They note that despite the prevalence and significance of e-learning in education, there is a dearth of published instruments for

educational researchers and practitioners that measure users' acceptance of e-learning, and to meet this need, Teo (another researcher) developed the E-learning Acceptance Measure. The main objective of the reported research was to validate this measure across two cultures, one from a European country: England, and the other from Asia: Lebanon.

The authors of the next paper: "*The effects of an educational video game on mathematical engagement*" are: Mido Chang (Florida International University), Michael A Evans (North Carolina State University), Sunha Kim (State University of New York at Buffalo), Anderson Norton and Kirby Deater-Deckard (Virginia Tech, Blacksburg) and Yavuz Samur (Bahcesehir University, Istanbul, Turkey). In an effort to maximising success in mathematics, their research team implemented an educational video game in fifth grade mathematics classrooms in five schools in the Eastern US and examined overall engagement and three sub-domains of engagement as outcome variables.

"*Leveraging competency framework to improve teaching and learning: A methodological approach*" by Venky Shankararaman and Joelle Ducrot (Singapore Management University) points out that engineering education programs have defined learning outcomes and course-level competencies to determine areas for continuous improvement. This article highlights how a competency framework can be used across the life cycle of a course to effectively deliver and assess course content and give valuable, timely feedback to students thus improving teaching, student motivation and learning.

"*Delivery of learning knowledge objects using fuzzy clustering*" is by: A. Sai Sabitha, Deepti Mehrotra and Abhay Bansal (Amity University Uttar Pradesh, India). The article describes how the e-Learning industry is rapidly changing, and current learning trends are based on personalised, social and mobile learning, content reusability, cloud-based and talent management. Objects delivered by these systems should provide a variety of learning content to satisfy different learners and should also have a pedagogical value over simple course content to empower learning. Their paper encompasses a data mining approach and fuzzy clustering technique to combine learning and knowledge objects based on attributes of metadata.

Sarah K. Howard and Amanda Gigliotti (University of Wollongong, Australia) then write on: "*Having a go: Looking at teachers' experience of risk-taking in technology integration*". They note that risk is an integral part of change and that technology-related change in teachers' practice is guided by confidence engaging in and beliefs about integration, but that it is also affected by how teachers feel about taking risks, experimenting and change. The article presents a theoretical framework of affect and emotion to understand how teachers experience and take risks in technology integration.

"*Towards real-time speech emotion recognition for affective e-learning*" describes research undertaken by: Kiavash Bahreini, Rob Nadolski and Wim Westera (Open University of the Netherlands). Their article offers a description of the voice emotion recognition part of FILTWAM (Framework for Improving Learning Through Webcams And Microphones) for real-time emotion recognition in affective e-learning settings. The software developed was tested in a study, the main goal of which was to show the valid use of computer microphone data for real-time and adequate interpretation of vocal intonations into extracted emotional states.

Ganna Veselovska (Ukraine) then writes on: "*Teaching elements of English RP connected speech and CALL: Phonemic assimilation*". The article begins by stating

that phonology represents an important part of the English language, but in English language acquisition it is rarely treated with proper attention. The article explores phonemic assimilation which results in successive sounds at word boundaries influencing each other as an element of connected speech, and how teaching it can be supported with computer-assisted language learning. The research revealed that elements of phonemic assimilation are found frequently in all styles of speech and thus, the knowledge of it is necessary for developing proper listening and speaking skills.

“Experience of technical disciplines remote training at the St. Petersburg State University of Architecture and Civil Engineering” is by: Vladimir Nikolaevich Glukhikh and Natalia Vladimirovna Norina (Saint Petersburg State University of Architecture and Civil Engineering, Russia). Their article discusses the main trends and characteristics of the use of multimedia in distance learning of technical subjects at graduate schools. It analyses the peculiarities of presentation and perception of information in a multimedia environment and studies genre and topic structure of multimedia means used for distance learning.

“Effects of persuasive designed courseware on children with learning difficulties in learning Malay language subject” comes from Malaysia and was contributed by: Kien Heng Ng, Aryati Bakri, and Azizah Abdul Rahman (Universiti Teknologi Malaysia). Educational courseware is now commonly used as a teaching tool for children’s early education, but most of this courseware is designed for children with normal learning ability and so Special Children who face difficulty in the learning process are unable to utilise this effectively due to their learning problems. This article presents findings from a study that investigated the effects of persuasive designed mobile courseware on children with learning difficulties compared to traditional teaching methods.

The final paper in this issue is from Canada and is by Carrie Demmans Epp and Rhonda McEwen (University of Toronto), Rachelle Campigotto (York University) and Karyn Moffatt (McGill University, Montreal). The article is titled: *“Information practices and user interfaces: Student use of an iOS application in special education”* and describes how a framework connecting concepts from user interface design with those from information studies was applied in a study that integrated a location-aware mobile application into two special education classes at different schools. The study revealed several information practices that emerged from student attempts to overcome barriers within the application and the curriculum.

Articles in this issue have come from: USA, Canada, Australia, United Kingdom, The Netherlands, Greece, Spain, Ukraine, Russia, Turkey, Israel, Saudi Arabia, Qatar, Pakistan, India, Thailand, Malaysia, Singapore, Philippines and China.

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