
Editorial

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Biographical notes: Pedro Isaias is an Associate Professor at the University of Queensland, Brisbane, Australia. He received his PhD in Information Management (in the specialty of information and decision systems) from the New University of Lisbon. He has headed several conferences and workshops within the mentioned area. He has also been responsible for the scientific coordination of several EU funded research projects. He is also member of the editorial board of several journals and program committee member of several conferences and workshops. At the moment he conducts research activity related to e-commerce and e-business, e-learning, information systems in general, and WWW related areas.

Tomayess Issa is a Senior Lecturer at the School of Information Systems at Curtin University, Australia. She received her Doctoral Research in Web Development and Human Factors. Currently, she conducts research locally and globally in information systems, human-computer interaction, usability, social networking, teaching and learning, sustainability, green IT and cloud computing. She is a Project Leader in the international research network (IRNet-EU) designed to study and develop new tools and methods for advanced pedagogical science in the field of ICT instruments, e-learning and intercultural competences.

Piet Kommers is affiliated with the Utrecht University and the University of Twente, the Netherlands and is a UNESCO Professor of Learning Technologies. He chairs the IADIS conferences and the e-society conference and web-based communities conference in particular. In his work for UNESCO, he brings forward the blend between the nature and the culture of learning. He distinguishes the 'new' media as catalytic to communication and awareness. In his view, learning gradually embeds in every aspect of life pertaining to the delicate question if learning can be orchestrated essentially. Similarly, we may question if communication can be 'arranged' as we ought to believe at the dawn of the social web.

In the 21st century, new e-technologies introduce to users and businesses to improve performance, productivity, and to increase satisfaction. E-technologies have changed users and businesses' understanding and perspective toward performing business, collaboration, and interaction, as well become an essential tool for users and business sectors. Users and businesses are using the new e-technologies to retrieve information, education, entertainment, marketing, political, online shopping, and health information. Adopting these e-technologies in such sectors poses a huge challenge for businesses in training and implementation. Nonetheless, using such technologies will improve business performance and productivity, reduce costs, increase users' satisfaction, retention, and loyalty in the long run. However, new threats will introduce, i.e., security, privacy, legal conflicts and risky reputation if it is used inappropriately. This special issue aims to investigate and assess e-technologies effects and influences on users and businesses' behaviours and attitudes.

This special issue of *International Journal Information and Communications Technology* entitled 'E-technologies' effects on users' and businesses' behaviours and attitudes' comprises of four papers. The guest editors selected these papers from the Internet Technologies and Society Conference Series (<http://its-conf.org/>), and International Conference on Educational Technologies Conference Series (<http://icedutech-conf.org/>), which were held in Universiti Putra Malaysia, in Malaysia. The papers have been extended significantly and peer-reviewed further to achieve a final high publication standard.

The first paper is entitled 'Virtual teamwork training: Factors influencing the acceptance of collaboration technology' by Joy Godin, Lars Leader, Nicole Gibson, Bryan Marshall, Amit Poddar and Peter W. Cardon. This study aims to identify the factors that influence the acceptance of electronic collaboration technology by higher education students and that influence their predicted usage of the technology for virtual team collaboration. The research combined the unified theory of acceptance and usage of technology (UTAUT) with a virtual team-training model. All 108 participants completed a survey following their participation in virtual team training. Ten hypotheses were tested using a structural equation modelling technique, partial least squares (PLS). Five of the hypotheses were supported and five were not supported. The results indicated that three of the four UTAUT constructs were significant in predicting whether the participants would use the collaboration technology in the future. Additionally, the findings revealed that the participants had a positive perception of the virtual teamwork training.

The second paper is entitled 'Law students' perspectives of the affect of academics' use of technology' by Lucy Craddock. This study aims to examine law students' perceptions and use of technology in the Faculty of Law, Queensland University of

Technology (QUT) and how to manage that use without it becoming a distraction. Students' willingness to use technology for their learning purposes, however, had not been tested. The research seeks to understand the affect of law academics in class use of technology for both law and justice students. Students use and their perception of academics use in lectures and tutorials were tested by means of an online survey conducted on an anonymous and voluntary basis. The analysis of results revealed that the majority of respondents rarely use technology in class for their learning purposes. However, most indicated that academics in class use of technology enabled their learning. The research also reinforced the need to make any level of engagement with technology meaningful for students. In particular, it identified the need to ensure that students are enabled, by appropriate training, in their use of any required databases or software.

The third contribution is entitled 'Learner autonomy, microcredentials and self-reflection: a review of a Moodle-based medical English review course' by Jun Iwata, John Clayton and Sarah-Jane Saravani. The acquisition of English has become increasingly important for medical professionals in Japan. However, the curricula at medical schools in Japan are so extensive that the time allocated for English classes is usually very limited, which means those classes often do not have the depth or scope to improve the English communication skills of medical students to the level necessary for their future career. This means English language teachers in these medical schools are tasked to not only deliver an intensive time constrained English curriculum, but also expected to design and implement effective and attractive review courses for learners' autonomous study. Increasingly, digital badges are used as valid indicators of accomplishment, skill, knowledge, or interest. In formal educational environments, endorsed badges are being used for certification and recognition. The implemented badge ecosystems help to motivate learners by providing the infrastructure for them to demonstrate their knowledge, skills and achievements to their tutors, peers, and learning communities through the display of validated badge collections. The authors of this paper have created Moodle-based English courses to improve the English curricula by integrating blended-learning in class. They also have started to provide ongoing access to a range of review courses to help their students' autonomous study. This paper outlines how the authors integrated a self-reflective framework and a badge ecosystem in the review courses they created. It illustrates how this framework helped learners identify for themselves the appropriate course at the appropriate level. It also demonstrates how the awarding of badges helps to motivate learners to actively engage with and complete the module and/or the course they have chosen.

The fourth and last contribution is entitled 'An ontology development approach using concept maps driven by automatic term extraction' by Rizwan Iqbal, Masrah Azrifah Azmi Murad, Aida Mustapha and Nurfadhlina Mohd. Sharef. A number of ontology engineering methodologies have been proposed to date. Distinct methodologies rely on different techniques and activities for developing ontologies. The concept mapping technique has been recently used for developing ontologies related to different domains. However, the existing approaches using concept mapping do not make use of any automatic term extraction process to ease the overall ontology development process and their evaluation procedures are not robust to specifically meet the need for ontology designs emerging from concept maps. This paper proposes a new approach which uses the concept mapping technique coupled with a term extraction engine. The engine automatically extracts the candidate terms from the competency questions which

reduces ontology development time and efforts. Furthermore, considering the importance of evaluation, a robust evaluation procedure is proposed which validates the ontologies at both the formal level and the graphical level.

Each of the above papers contributes in its own way to the theme of this special issue: 'E-technologies' effects on users' and businesses' behaviours and attitudes'. We are grateful to all invited authors in general and, in particular, to these that have finally been selected to be published in this special issue.