
Editorial: Ground-breaking fresh ideas: introduction to the special issue for young researchers

Peter Kraker*

Know-Center,
Graz University of Technology,
Inffeldgasse 21a, 8010 Graz, Austria
E-mail: pkraker@know-center.at
*Corresponding author

Moshe Leiba

Knowledge Technology Lab,
Science and Technology Education Center,
School of Education,
Tel Aviv University,
Tel-Aviv 69978, Israel
and
Levinsky College of Education,
Shoshana Persitz 15, Tel Aviv 61481, Israel
E-mail: moshelei@post.tau.ac.il

Luis P. Prieto

GSIC-EMIC Group,
University of Valladolid,
Cno. del Cementerio, s/n, 47011 Valladolid, Spain
E-mail: lprisan@gsic.uva.es

Ana Loureiro

Escola Superior de Educação de Santarém,
Complexo Andaluz, Apartado 131,
2001-902 Santarém, Portugal
E-mail: accloureiro@gmail.com

Olga Pustovalova

IMT Institute for Advanced Studies,
Piazza San Ponziano 6, 55100 Lucca, Italy
E-mail: olga.pustovalova@imtlucca.it

Maria Perifanou

School of Philosophy,
Faculty of Italian Language and Literature,
University of Athens,
5th floor, Panepistimiopolis, 15784 Ilissia, Greece
E-mail: mariaperif@gmail.com

Biographical notes: Peter Kraker received his Master in Business Administration from University of Graz in 2007 and BSc in Computer Science from Graz University of Technology in 2008. Currently, he is a Research Assistant at Know-Center, Graz University of Technology. His main research interest and the topic of his PhD thesis is the way in which TEL researchers use the web and in particular Web 2.0 for their work, and how artefacts generated in that process can be used to structure the field.

Moshe Leiba received his MA in Science Education from Tel Aviv University in 2005 and BSc in Electrical Engineering from Holon Institute of Technology in 2003. Currently, he is PhD candidate at the School of Education, Tel Aviv University and Lecturer at Levinsky's College of Education. He acts as EU Research Coordinator for the Knowledge Technology Lab at Tel Aviv University and Research Assistant at the DynaLearn project (supported by the EU 7th Framework Programme). His research interests include ICT in science education, mathematical problem solving, web-mining of online learning and ICT in teachers' training.

Luis P. Prieto holds an MSc in Telecommunications Engineering at the University of Valladolid, and is currently working towards his PhD dissertation at the GSIC-EMIC interdisciplinary research group, which specialises in computer-supported collaborative learning (CSCL). After seven years working as a Software Developer at Telefonica I+D, he turned to research, first about grid computing, and now in the field of technology enhanced learning. His main research interests include developing technological and conceptual tools to support orchestration of learning, especially collaborative learning in authentic primary and higher education contexts.

Ana Loureiro received her public evidence for the award of Expert title in Education and Multimedia Communication in 2011, her MEd in Multimedia in Education from University of Aveiro in 2006 and her Graduation in New Technologies of Communication from University of Aveiro in 1998. Currently, she is an Assistant Professor at Department of Educative Technologies at School of Education, Polytechnic Institute of Santarém, Portugal. She is also a Research Fellow at Research Centre Didactics and Technology in Teacher Education (CIDTFF), University of Aveiro. Her main research interest and the topic of her PhD thesis is related with the use of virtual worlds and Web 2.0 tools in higher education as an extended classroom for tutoring sessions.

Olga Pustovalova received her Bachelor and Masters degrees in Computer Science in 2005 and 2006, respectively, from the State University of Moldova. She was a Research Assistant in University of Deusto, Bilbao, Spain, and a collaborator in the Centre for Information and Communications Technology in Education, Ministry of Education, Moldova. Currently, she is a PhD student in IMT Institute for Advanced Studies, Lucca, Italy. She works in the field of knowledge representation and soft constraints.

Maria Perifanou is project manager and researcher in the field of technology enhanced learning (TEL). She holds a Master in ICT and Foreign Language education from Ca'Foscari, University of Venice, Italy and PhD from the University of Athens, Greece, in the field of applied linguistics with a focus on the use of emerging Web 2.0 tools in language learning (Webquests 2.0, Collaborative Blended Learning Methodology – CBLM). She collaborates with various European research institutions such as 'Pontydysgu', Wales, UK and she also works as Italian Lecturer and e-learning professional at the European Institute of Vocational Training 'AKMI' in Thessaloniki, Greece. Her main practice and research concerns Web 2.0, technology enhanced, language learning (TELL), WebQuests 2.0, blended learning, collaborative learning, mobile learning, and personal learning environments (PLEs).

The *IJTEL* young researcher special issue on 'Ground-breaking fresh ideas in technology enhanced learning' is a bit different than other journal special issues. The main idea of *IJTEL*'s editor in chief Ambjörn Naeve was to have a platform where PhD students and early post-docs can present their visions for TEL. Freed from the empirical limitations of a dissertation, it should allow young researchers to take a step back and bring fresh ideas to the field. This concept was picked up by an enthusiastic group of guest editors consisting of PhD students and young postdocs at *JTEL* Summer School 2010.

But not only is the theme something different, we also tried to innovate in the process: the programme committee included experienced reviewers as well as novel reviewers to get different perspectives on the submitted papers. Furthermore, we provided an ideas clinic, where potential authors could present their ideas and seek feedback and collaboration. An abstract submission prior to the full paper submission completed the effort to provide as much feedback and guidance as possible. The whole process was overseen by managing editor Fridolin Wild to guarantee the high quality standards of both *IJTEL* and *Inderscience*.

We are proud to present the outcome of our efforts: seven papers presenting innovative and ground-breaking ideas in the field of TEL.

In their paper, Kelle, Klemke and Specht tackle one of the main challenges in the area of game-based learning, which is the difficulty of designing effective game-based learning experiences, and reusing that kind of design knowledge. By applying the concept of 'design pattern' to learning games, they hope to overcome one of the main hurdles stopping the widespread development of this kind of learning experiences.

Hardof-Jaffe and Nachmias present a paper dealing with personal information management (PIM). The authors refer to PIM as a new digital literacy, as it is very important that students understand PIM activities in the learning context. In the article, the authors describe preliminary findings from a pilot research (case study) they have conducted with high school students, undergraduate and post-graduate students.

Prieto, Holenko Dlab, Gutiérrez, Abdulwahed and Balid propose a framework for the concept of orchestration in TEL. The authors base their understanding on an extensive literature study, characterising the main aspects, challenges, and potential solutions of orchestration. They envision that this framework will help TEL researchers to integrate solutions in increasingly complex classroom environments. Finally, the authors present a case study which they analyse using the proposed framework.

Aladjem and Nachmias introduce the idea of knowledge carrying objects (KCOs). They argue that every physical object can be enriched with a body of knowledge through digital augmentation on mobile devices. The authors envision that this body of

knowledge is created dynamically. They propose a framework for a learner-centred knowledge construction process mediated by mobile technology. The authors conclude with future research challenges regarding KCOs.

Manches describes and analyses a possibility for technology enhanced learning that is still underdeveloped today: the digital manipulative (meaning a digital abstraction of physical materials, like tiles or blocks). The author argues that digital manipulatives are especially suited for learning at earlier ages. In his paper, he proposes a descriptive framework to analyse digital manipulatives, which can help researchers in conceptualising their properties.

Börner, Kalz and Specht outline their vision of ambient learning displays. These environments enable learners to view, access, and interact with contextualised digital content presented in an ambient way. The vision is based on a detailed exploration of the characteristics of ubiquitous learning and a deduction of informational, interactional, and instructional aspects to focus on. The authors' main idea behind ambient learning displays is to encourage situated learning, while supporting the learner's mobility.

Kraker, Leony, Reinhardt and Beham make the case for an open science in TEL. They discuss the potential benefits of an open science for the research community and the stakeholders in TEL research, but they also shed light on the issues of this approach. Furthermore, the authors introduce the concept of open methodology, which stands for sharing the methodological details of an evaluation, and the tools used for data collection and analysis. They conclude with a set of recommendations for implementing open science in technology enhanced learning.

A second special issue is already underway due to the success of this format. Keep an eye out for the call for papers!