
Editorial

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Biographical notes: Piet Kommers is a Professor of UNESCO Learning Technologies affiliated with the universities of Twente and Utrecht, The Netherlands. His specialty is social media for communication and organisation. As a Conference co-Chair of the IADIS multi-conference, he initiated the conferences of web-based communities and social media, e-society, mobile learning and international higher education. He is a Professor at the UNESCO Institute for Eastern European Studies in Educational Technology and Adjunct Professor at the Curtin University in Perth, Australia.

Margriet Simmerling is a Peer Consultant/Senior Manager for R&D projects in the area of e-society and web-based communities. She participated in the advisory board for the Dutch Ministry of Economic Affairs and active reviewer for the European Commission. She designs and moderates e-learning modules and workshops in the domain of education technology and psychology at the PhD level.

This special issue presents articles related to trends and developments in ‘Advanced lifelong learning environments’. Authors from Switzerland, Australia, Iran, Ukraine and Poland inform us about the latest developments and its best practises. In the enclosed articles we recognise the overall phenomenon that we tend to underestimate the speed of long-term, and we tend to overestimate the speed of short-term evolutionary processes. In other words: what we regarded as almost infinite goal of allowing students to manipulate and redesign complex systems is already closer than we intuitively estimate in our day to day practice. The process speed of involving teachers/trainers in the orchestration of mediated learning systems is what we tend to overestimate again and again; even if we completely re-arrange teacher education programs, school organisations and even appoint techno-savvy school leaders and techno-minded educational decision makers. What is the reason for this second intuitive bias? Various earlier articles in *IJCEELL* have touched this sensitive spot; if traditional assessment methods stay intact, it is unlikely that learning methods and teaching practices will evolve. The strongest catalyst for transforming education from transfer into a process of development, problem solving and creative design is problem-based learning where the learner/trainee invests in a unique

learning project, bringing the teacher in the role of mentor/coach. If you take this critical stand during the apprehension of the following articles, we presume you experience an aha-effect that will never escape from your mind.

The first article 'Edification in creation of Lattice Boltzmann models for materials science students' provides relevant information for all who are interested in the technical detail of creating simulations. Dmytro S. Svyetlichnyy, Alexander V. Perig, Łukasz Łach, Robert Straka and Andriy Svyetlichnyy present a student-friendly education tool to be used in the setting of modern engineering education. The article contains many figures and diagrams to demonstrate the processes and findings.

The second article 'Method for teaching students to make a simple geometric estimation of the macroscopic rotational modes of large deformations during pressure forming' presents an original instructional approach that makes it possible for a beginner to understand complex science. Olexander V. Perig developed an instructional approach that does not need laboratory or large budgets. The article includes many figures that demonstrate the approach and results.

In the third article, mathematics is an important learning field and for many high school students real challenge. Santoso Wibowo, Paul Moore and Michael Li developed a math learning system with the focus on an emphasis on being efficient, dynamic and user friendly. The article 'Development of a maths learning system for high school students using the Java desktop platform' presents the development and implementation of the system.

The fourth article 'A versatile and flexible e-assessment framework towards more authentic summative examinations in higher education' presents the experimental results of electronic assessments. Laurent Moccozet, Omar Benkacem, Elma Berisha, Rita Trigo Trindade and Pierre-Yves Bürgi investigate the role of an infrastructure used across universities for conducting exams online. The authors describe an infrastructure for deploying an online exam service for an entire university and show the potential of at the platform to be used to summative examinations for continuing education

The fifth article 'An evaluation of Shiraz University curriculum renewal process based on strategic approach of education for sustainable development' is an interesting examination of the factors that inhibit curriculum renewal, and its integration into the praxis of a university, Mehdi Mohammadi, Ghasem Salimi and Ana Ghasemian report the key findings. Basic statistical analysis confirms the validity of the findings. In the conclusion recommendations for essential improvement are provided.

Finally, the 6th article 'Recent post digital transformations of undergraduate learning processes in the study of multidisciplinary materials science' explores new ways of timely memorisation of instruction material. Alexander V. Perig, Nikolai N. Golodenko, Oleksii V. Lapchenko, Violetta M. Skyrtach, Alexander A. Kostikov and Oleg V. Subotin propose a memory model. The model is tested by students and the results are promising.

May these articles inspire you to reflect back to your own practice and formulate your message for future colleagues.