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Rethinking Education in the Knowledge Society

J.UCS Special Issue

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This special issue of J.UCS offers a wide perspective on Information and Communication Technologies (ICT) in the learning experience. While all of them cover teaching/learning and ICT, the seven selected articles approach the same common subject from different viewpoints, both when it comes to the adopted research methodology – experiment, survey, case study; the learning context – secondary school, university, lifelong learning; the topic – health related, second language, science; as well as the related disciplines – pedagogy, psychology, sociology, ethnography.

Computer Generated Voice-Over in a Medical E-Learning Application: The Impact on Factual Learning Outcome – by S. Minder, M. Notari, F. Schmitz, and R. Hofer – presents an experimental research designed in order to assess the learning effectiveness of different strategies to deliver contents in a visual and textual/spoken form, exploring the differences between audio produced by a human speaker and produced by a computer generated voice.

Co-Designing Collaborative Smart Classroom Curriculum for Secondary School Science – by M. Tissenbaum, M. Lui, and J.D. Slotta – analyzes a technology-rich setting for secondary schools, designed to improve group collaboration and balance teacher's control and students' freedom. It also explores how student data can be provided to the teacher before class, in support of planning the next day's lesson, as well as during class, to help the teacher orchestrate class activities and respond to student needs.

Science/math disciplines are covered also by the next article, which approaches their study from a sociological perspective: *Boys are like Girls: Insights in the Gender Digital Divide in Higher Education in Switzerland and Europe*, by L. Botturi, Ch. Bramani, and S. McCusker. The article provides evidence to support a comprehensive approach to the issue: results indicate that there are no major gender differences when it comes to ICT use and perception, while relevant differences are found in the values attached to future professional careers in ICT.

A similar approach is present in the article titled *University Students and Social Media: Reflections from an Empirical Research*, by P. Ferri and A. Pozzali, which

demystifies some naïve presuppositions about so-called "digital natives". While collected data provide evidence of an extensive and growing use of digital technologies by university students (in Milan, Italy), no simple inference can be drown suggesting an extensive integration of them within their learning experiences.

The university setting is explored also in the next paper, this time focusing on an experience of second language teaching/learning: *Pedagogical Design of an eTandem Chinese-French Writing Course*, by J. Wang, C. Berger, and N. Szilas. It outlines and discusses a case study, designed taking into account an extensive literature review of similar settings, and presents lessons learned and possible paths of improvement.

Measuring Primary Schools Teachers' Perception of ICT through Self-Efficacy: A Case Study – by I. Rega and F. Fanni – together with the last article study ICT in learning experiences in a developing context, hence crossing the field of Information and Communication Technologies for Development (ICT4D). Beside presenting and analyzing data from a sample of primary school teachers working in underdeveloped areas of South Africa, it discusses the advantages and challenges of adopting a mixed methods approach, including quantitative data about computer and teacher Self-Efficacy, and qualitative data, interpreting interviews in order to explore the individual sources of Self-Efficacy, namely: Positive Mastery Experience, Negative Mastery Experience, Positive Vicarious Experience, and Negative Vicarious Experience.

AT-HOME 2.0 – An Educational Framework for Home-based Healthcare – by I. van Zyl and R. de la Harpe – closes this issue, coming back to the healthcare sector, where ICT have been playing a major role at many different levels, from diagnostic tools to therapeutic strategies, up to supporting learning. The presented research explores an intervention strategy that leverages on mobile technologies to support lifelong learning of caregivers, and their sharing of knowledge and experiences.