

Guest Editorial

In its Commission Work Program 2013, the European Commission (2012) states that:

Education and training systems are not keeping up with changing labour market needs—resulting in shortages in key areas like science, mathematics and e-skills. Higher education is not sufficiently connected to research and innovation activities and is slow to build capacity in areas like ICT—which both reflects and contributes to a lack of internationalization. Life-long learning is still developing, and public policy and business practices do not reflect the need for older workers to extend their working careers (p.7).

One of the most significant deficits in technology enhanced learning or e-learning approaches was always the capacity of systems to provide ways for knowledge creation and renewal of learning content through the exploitation of the social interactions and learning experiences. In a way it seemed that e-learning could not exploit and capitalize on the “knowledge and learning assets” generated in the context of the unique e-learning experience. The contribution on Knowledge Management, Organizational Learning, Learning Objects Metadata, Learning Designs and Semantic Web in this area is significant.

Information technologies in the area of engineering education systems have become more and more popular. Systems allow students access to the online resources provided by academic staff and discussions with instructors in any location, at any time are possible. Students not only download material, but also share relevant experiences and information with other classmates. Knowledge sharing is one of the most salient issues in online engineering education systems.

Knowledge management strategies focus on the creation or acquisition of knowledge, its storage, combination, diffusion and renewal, as discussed in the key book “The Knowledge Creating Company” by professors Nonaka and Takeuchi. Knowledge can be generated at four ontological levels: individual, group, organizational and inter-organizational.

In this special issue we explore the potential of Web 2.0, Technology Enhanced Learning and Strategies and Knowledge Management in engineering education. Additionally the papers in this special issue analyze the state of the art in theoretical foundations and technological applications of these areas of research in the context of engineering education.

The special issue contains a collection of papers on different topics from knowledge management and engineering education, learning and knowledge communities in academia, the impact of Information technologies on student-academic staff relation to the analysis of large online communities web communities of practice, and wikis, semantic wikis and other collaborative knowledge creation systems, among others.

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