Editorial

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Computing education specifically requires innovative teaching pedagogical methods and continuous improvement in teaching curricula to combat the challenges posed by high innovation levels. This rapid knowledge generation rate necessitated the need for active involvement of computing faculty members in research and syllabi updating. On the other hand, the practical nature of computing skills requires that students should not only learn theoretical basics but also grasp the practical skills to compete in the global job market. This makes the teaching of computing subjects more sensitive, proactive and evolutionary. The availability of experienced faculty members especially in developing countries is low due to brain drain and high salaries in industrial countries relative to salaries in those developing countries. This means that those faculty members teaching advanced subjects should be well trained not in the subject matter only. They should also be aware of rapid changes in syllabi and advanced pedagogical techniques to impart knowledge in a better way. Furthermore, modern technologies provide new forms of learning where traditional pedagogical methods fell short. As such, there is also a need to develop pedagogical best practices in relation to these approaches. The lack of sufficient body of knowledge describing course development, pedagogical approaches and evaluation strategies in computing discipline add another dimension to the multitude of this problem. In order to help young academics in computer science field, it is important to develop case studies, experience reports and best practices of curriculum development and pedagogical approaches. This motivated us to carry out a special issue on curriculum design and pedagogical issues in computing education. The papers published in this issue were received through open call and accepted after careful peer reviews.

We would like to thank Dr. Ravinder Rena, Editor-in-Chief of *International Journal of Education Economics and Development* and Inderscience for providing us a platform to publish this special issue. We would like also to thank members of reviewing committee for their efforts in reviewing the manuscripts and suggestions to improve the manuscripts. The reviewing committee included Dr. Zaigham Mahmood (University of Derby, UK), Dr. Abdul Wahid Hakmi (University of Stuttgart, Germany), Dr. Irfan Jaffer

(GIST, Korea), Dr. Rizwan Ahmad (University of Qatar, Qatar), Dr. Irfan Manarvi (Iqra University Islamabad, Pakistan), Dr. Muhammad Rashid (Foundation University Rawalpindi, Pakistan), Ms. Sapna Tayagi (IMS Ghaziabad, India), Farrukh Masood Khawaja (Ericsson Telecommunication, Frankfurt, Germany), Abdullah Mumtaz (University of Stuttgart, Germany), Muhammad Aasim Qureshi (Universiti Teknologi Petronas, Malaysia), Muhammad Javed (Dublin City University, Ireland) and Sheeraz Akram (University of Arid Agriculture Rawalpindi, Pakistan).

The first paper by Emad A. Abu-Shanab and Ahlam Alsmadi provides an assessment framework for information technology related courses to evaluate the quality of the academic courses. The curriculum, faculty and the quality of graduates are essential inputs to determine the quality and in this framework enlist interested stakeholders and their interests and responsibilities in the quality improvement.

In the second paper, C.R. Rene Robin and G.V. Uma, presents an ontology based e-learning tool for teaching software risk management. The system is capable of using an underlying ontology to organise course content based on semantics.

In the next contribution, Mehdi Sagheb-Tehrani evaluates the curricula of information system programme offered in the USA and discusses the variations of curricula. This study suggests that in information system syllabi there is various differences even there are difference in core subjects.

The fourth contribution by Zakaria I. Saleh looks at the knowledge retention level of students from online information. The increasing availability of digital data and availability of high speed internet connections are the major reasons of acquiring online information. The findings help institutions to reassess the role of internet as a teaching medium.

In the next contribution, Izzat Alsmadi and Feras Hanandeh provide a framework for teaching introductory software engineering courses. Due to complexity of this subject, authors proposed to combine other teaching methods along with traditional class room environment. They suggested providing a yearlong practical training to software engineering students to better link the theoretical concepts with practical tasks.

The last contribution by Saqib Saeed, Rizwan Aamir and Zaigham Mahmood looks at the implications of teaching basic database management systems course to undergraduate students. They provide a sample course outline and reflections on pedagogical approach they employed in teaching this course in a Pakistani University. The positive feedback by students and good results highlighted that students enjoyed this learning experience.