
Editorial

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Biographical notes: Lorna Uden is Professor of IT Systems in the Faculty of Computing, Engineering and Technology at Staffordshire University. Her research interests include technology learning, HCI, activity theory, knowledge management, web engineering, multimedia, e-business, service science and innovation, semantic web, and problem-based learning.

Welcome to the V5N2 issue of *IJLT*. This issue covers a range of interesting topics from learning technology. My special thanks go to Dr. Cathleen A. Kennedy, Educational Research consultant, for her help in soliciting, and reviewing some of the papers.

The first paper, 'Dynamic management of tutor's roles in an online learning system', is by Lafifi. According to Lafifi, the tutor's role in an online learning environment is important. He argues that in existing learning systems, the roles of tutors are fixed and not explicitly defined. To overcome this, he has implemented an online system for learning and tutoring called LETline. In his system, tutors roles and tasks are dynamic and depend on tutors' skills. Lafifi has tested his system with students and tutors, and the results were positive. Further validation of the system would be useful.

From online learning systems we move to the second paper, by Ramachandran and Towndrow. In their paper, 'Commercial e-learning portals in English language learning', they question whether commercial e-learning portals (CELPs) in language learning are worth the investment made. According to these authors, teachers were supportive of CELPs, but unsure of what to do or why. This paper summarises the outcomes of a pilot study into English language tutors' beliefs and attitudes relating to the integration of commercial e-learning portals. These authors argue that the mechanism that aligns teachers, students and technology is pedagogy, and the relationships between these three are highly interdependent to the degree that changes in one area of practice are likely to have effects in the other domains. In their paper, Ramachandran and Towndrow recommend ways in which teachers capabilities with CELPs can be increased. However, there are limitations to this study due to the small sample used. It is important to conduct further empirical studies to validate their recommendations.

The third paper is by Zydney, Stegeman, Bristol and Hasselbring. In their paper, 'Improving a multimedia learning environment to enhance students' learning, transfer, attitudes and engagement', they have developed a multimedia learning environment on group interaction, on mathematical concepts, a learning game and group activities. The learning game uses a variety of multimedia elements including videos, animations, sound effects, text and interactive feedback. According to these authors, the results showed significant improvements in both achievement scores and attitudes towards mathematics.

The results, however, did not show the same benefits for the special education students. Qualitative analysis revealed a number of misconceptions and poor problem-solving strategies that students used when transferring their knowledge to a novel situation. In order to be convincing, continuing research in this area will be needed to help understand how students can be improved in mathematical learning.

The next paper is entitled 'Looking inside the black box: assessing model-based learning and inquiry in Biologica™' by Buckley, Gobert, Horwitz and O'Dwyer. According to these authors, few assessments exist for measuring or quantifying inquiry. The situation is further complicated by the fact that it is difficult to separate inquiry from context. Their paper describes the efforts of the IERI-funded project, modelling across the curriculum (MAC) to create technology-enhanced assessments grounded in a theory of model-based learning, embedded in computer-based learning activities guided by model-based scaffolding. The authors argue that the MAC project explores the potential of a powerful new approach to instruction, assessment and educational research. They offer students problem solving activities supported by manipulable computer models linked to context-sensitive scaffolding. Student's actions are logged as they attempt to solve the problems. After identifying useful log file data and developing algorithms for analysing the data on a large scale, the authors then identified productive inquiry strategies correlated with learning gains. Despite the benefits of the MAC, there are limitations that will need to be addressed.

The last paper in this issue is 'Improving assessment evidence in e-learning products: some solutions for reliability' by Scalise, Madhyastha, Minstrell and Wilson. A major concern expressed by these authors is with personalised e-learning assessment; whether the diagnostic conclusions of such products are based on sound measurement evidence, including whether or not the diagnostics are reliable. According to these authors, reliability has to do with the consistency of measurement, and whether the results can be reproduced. Their paper investigates reliability evidence for one cognitive diagnostic product that illustrates some of the reliability challenges in e-learning products. According to these authors, this paper also offers some simple solutions for improving reliability with only minimal increases in the number of tasks and questions completed. Although these authors have identified some of the solutions for improving reliability within one product, it would be useful to have more studies of this nature.