
Editorial

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Biographical notes: Lorna Uden is a Professor Emeritus of IT Systems in the Faculty of Computing, Engineering and Technology at Staffordshire University. Her research interests include technology learning, HCI, activity theory, big data, knowledge management, web engineering, multimedia, e-business, service science and innovation, mobile computing, cloud computing, neuroscience, social media, intelligent transport systems, internet of things and problem-based learning.

Jeremiah Sullins is a Professor of Psychology at the Harding University. As a cognitive psychologist, his primary interests are in the learning sciences. His research focuses on learning/educational technologies, with branches extending into emotions, pedagogical strategies, tutorial dialogue/interaction, feedback mechanisms, and question-asking.

Welcome to the V19N1 issue of *IJLT*. This issue consists of five papers.

The first paper is titled 'Demographic differences in China's higher education students' interactions and experiences with online learning during the COVID-19 pandemic' by Jiayun Yan and Ting Wang. From primary education to higher education, over half of students worldwide were forced to self-quarantine due to school closures caused by COVID-19. In response to this crisis, most academic institutions promoted online education. In this study, the authors investigate the relationship between higher education students' demographic backgrounds and their interactions and experiences with online learning during the COVID-19 pandemic. Analyses revealed that most participants had lower satisfaction with online learning.

The second paper is titled 'Advances in personalised recommendation of learning objects based on the set covering problem using ontology' by Clarivando Francisco Belizário Júnior, Fabiano Azevedo Dorça, Luciana Pereira de Assis

and Alessandro Vivas Andrade. Intelligent tutoring systems are computer systems that use artificial intelligence and cognitive psychology techniques to give feedback to students without human intervention. Intelligent tutoring systems are good at helping students solve problems step-by-step by giving them feedback and hints on each step. However, this approach is not compatible with most content. In this paper, the authors propose a recommendation system for e-learning resources and fine-grained LOs (called hints) based on student's learning styles, knowledge, and search parameters.

The third paper is 'Modelling e-learning quality, self-efficacy and students' behaviour' by Tejas R. Shah and Poonam Chhaniwal. The COVID-19 pandemic has compelled higher education institutions to shift from traditional classrooms to remote learning. However, it is a challenging task to encourage students to use new technologies. Additionally, teachers' roles have undergone a transformation from passive communicators to active collaborators. Because of this, it is important to study how the shifting role of instructors affects students learning. Results revealed relationships among e-learning quality, instructor quality, and students' self-efficacy related to student satisfaction and academic performance.

The fourth paper is titled 'An analysis of technological resources to encourage self-regulated learning behaviour in virtual learning environments in the last decade' by Geycy D.O. Lima, Juliete A.R. Costa, Fabiano A. Dorça and Rafael D. Araújo. Virtual learning environments have become increasingly intelligent and supplied with individualised resources for a more engaging and effective learning process. This paper presents a systematic literature review to outline such technologies. More specifically, the authors explored the following questions:

- 1 Which intervention strategies and/or technologies have been used to stimulate self-regulatory capabilities in virtual learning environments?
- 2 In which contexts and levels of education have these tools been used?
- 3 Which SRL models are mostly used in this context?

The fifth paper is titled 'A framework for co-designing effective LADs supporting sensemaking and decision making' by Jean-Marie Gilliot and Madjid Sadallah. Learning analytic dashboards (LADs) deserve increased attention, yet their adoption remains limited. LADs are tools used to represent and display the results of a learning analytics process in a meaningful way. By incorporating visual and interactive features, they amplify human natural abilities to detect patterns, establish connections, and make inferences. The main contribution of this paper is to provide a framework integrating the decision-making features in a participatory design process of learning analytic dashboards. More specifically, the paper sought to investigate the following research aims:

- 1 Investigate how the decision-making process can be reflected on a learning dashboard.
- 2 Address the need for explicit decision-making features in a design process.