Editorial

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Welcome to V16N1 issue of *IJLT*. There are three papers in this issue. The first paper is 'Exploring the affordances of computer-based assessment in measuring three-dimensional science learning' by Christopher J. Thompson and Rebecca Hite. According to these authors, implementation of three-dimensional (3D) learning requires not only the development of a 3D curriculum and classroom instruction, but also the development of new assessments suited to measuring the factual knowledge, the practices, and the broader concepts that should be garnered by K-12 students in this new approach to 3D science learning. Assessing 3D learning, poses some challenges to use of traditional items and typical implementation of tests, as well as their practical acceptance by the population of potential users. The assessments must provide opportunities for the test-taker to interact in complex and meaningful ways that provide the opportunity to demonstrate 3D learning.

These authors argue that the Next Generation Science Standards (NGSS) calls for higher proficiency in K-12 science through 3D learning, defined as the integration of core ideas, science practices, and cross-cutting concepts. In response to NGSS 3D science learning, the authors of this paper created a computer-based assessments of novel 3D items permitting more complex responses and evidence of knowledge than traditional multiple-choice questions (MCQs). This case study used task-based interviews to compare students' responses to 3D items against comparable MCQs. Results demonstrate that 3D items are equally or more effective to MCQs for evaluating proficiency in 3D science learning. This research suggests with further development, 3D items delivered in an online format are a scalable and suitable tool for state-wide accountability testing. More empirical studies are needed to validate the results.

The second paper is 'Towards adoption of information and communication technology in higher education – a structural equation model approach' by Rafiu Mope Isiaka, Ronke Seyi Babatunde, Kennedy Arebamen Eiriemiokhale and Damilola David Popoola. These authors argue that the African higher education system has received several uncoordinated interventions towards the adoption of information and communication technology (ICT). They point out that coordination of the interventions for determining the extent of ICT adoption is challenging. This paper describes a comprehensive framework for guided implementation of ICT adoption in educational institutions.

The research by these authors formulates an integrated ICT adoption model using the thematic analysis of the factors and elements of existing models. The confirmatory factor

analysis of the generated structural equation model at a Nigerian north-central state university identifies ICT-infrastructure-readiness and ICT-use-intensity as the major impacting factors for ICT-adoption. The preliminary result shows that a unit increment in the Use-Intensity raises the ICT-adoption level by 0.73. Similarly, a unit increment in ICT-infrastructure-readiness and behavioural-intention respectively cause 0.88 and 0.50 raise in the use-intensity. The theories and aggregation techniques adopted for the model are confirmed to be operational for determining the factors and levels of ICT adoption in the institution, thereby providing the required instrument for guided academic and administrative decisions. For the model to be effective, it would require further empirical studies.

The third paper is 'Improving a MOOC to foster information literacy by means of a conjecture map' by Luca Moser, Josef Guggemos and Sabine Seufert. According to these authors, the competent handling of information (information literacy – IL) is a key competence necessary for participating in an increasingly interconnected knowledge economy and society. To support teachers fostering IL with their students, the authors of this paper have developed and improved a massive open online course (MOOC) to foster IL for upper secondary students in Switzerland, by means of conjecture mapping.

Evaluation of the i-MOOC by these authors shows that it is an effective tool to foster IL and that the active management of the learning processes by the teachers had a significant impact on the learning outcomes. Although the involved teachers never used online courses with their students before, the fostering of IL with help of a MOOC appears to work. More empirical studies are required to validate the results.