Editorial

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Welcome to V 17 N 1 issue of *IJLT*. This issue consists of four papers. The first paper is 'Lessons learned about the application of adaptive testing in several first-year university courses', by Anna Maria Angelone, Alessandra Galassi and Pierpaolo Vittorini. Assessment is an important part of education. The paper discussed the impact of using computerised adaptive testing (CAT) in place of fixed-item tests (FIT) as an assessment procedure from both student and teacher perspectives. According to these authors, research suggests that teachers using CAT instead of FIT should complete assessments faster and obtain more precise evaluations, albeit at the cost of calibrating their questions. For the students, adaptive testing is likely to increase students' engagement, although the impossibility of revising questions once they are answered is usually seen as a detrimental characteristic.

This paper describes the use of CAT for assessment. The authors from their study found that from the professors' perspective:

1 there were no major usability or technical issues

2 CAT achieves an improved performance with respect to FIT (i.e., reduced overall time, fewer administered questions, less time per question).

Conversely, from the students' perspective, there were no usability problems, although FIT was considered easier than CAT assessments. The engagement in performing the assessment using CAT was no different from that of FIT. Moreover, the small differences in terms of average grades were not statistically significant. The study also evaluates the internal consistency of the two questionnaires to measure the usability and engagement the assessment process. Further empirical validations would benefit the research.

The second paper is 'A conceptual framework to structure remote learning scenarios: a *digital wall* as a reflective tool for students to develop mathematics problem-solving competencies' by Manuel Santos-Trigo, Isaid Reyes-Martínez and Adrián Gómez-Arciga. These authors argue that a *digital wall* is an important tool for students to register, report and follow up their own learning experiences and to share and discuss their problem-solving approaches with peers and others. A *digital wall* becomes a tool for learners to document individual and collective learning experiences.

This study aims at answering the question "To what extent could a problem-solving approach that involves the coordinated and systematic use of technology affordances help students structure and use of a digital wall as a reflective tool to record, monitor, and to follow up their learning experiences in developing mathematical knowledge and problem-solving competencies?" These authors believe that technology tools demand

students to conceptualise their learning as an opportunity to identify and activate their mathematical knowledge to actively engage in mathematical discussions. In this paper, these authors present a conceptual framework to structure online learning environments. It includes three intertwined elements: a problem-solving approach for learners to learn mathematics, the students' use of digital affordances to represent, explore, and solve problems, and an online students' learning support. This is merely a conceptual model. The model must be validated in real uses.

The third paper is 'Personalised instructional feedback in a mobile-assisted language learning application using fuzzy reasoning' by Konstantina Chrysafiadi, Christos Troussas and Maria Virvou. According to these authors, mobile-assisted language learning (MALL) is effective in providing foreign language instruction by reaping the benefits of adaptivity to students' needs and preferences. Adaptivity is achieved by utilising artificial intelligence techniques, like machine learning algorithms, neural networks, clustering algorithms in the corresponding systems. Adaptive feedback can be a potentially powerful tool in MALL systems because it can provide assistance to students having different skills and declarative knowledge.

These authors have implemented a multilingual MALL system for the tutoring of English and French languages. The research incorporates a model-based error diagnosis, i.e., machine learning techniques for identifying students' errors and misconceptions such as knowledge transfer, spelling, verb mistakes, etc. Fuzzy logic is used to automatically model these misconceptions and errors and provide personalised feedback to students based on their personal learning needs and preferences. The system has been evaluated by students and instructors using an established framework and t-test. According to these authors, the results of evaluation show potential pedagogical benefit as well as high accuracy in diagnosing errors and misconceptions and providing personalised feedback to students. It would be useful to further evaluate the system using remote students over smartphones to confirm the fact that the experience improves learning.

The fourth paper is 'The challenges of distance assessment in higher education – a case study' by Viktorija Florjančič. This paper presents the challenges of introducing e-assessment at a traditional university where teachers did not extensively use online learning until the first wave of the COVID-19 epidemic. The ad hoc switch to online learning environments is known as emergency remote teaching because it was not planned. In the empirical part of the article, the author presents the results of a survey among the most advanced ICT user university members conducting examinations at a distance. The survey was carried out among UPFM teachers in June 2020 and repeated at the end of March 2021. The first research supports other authors' findings that even teachers who already are skilled ICT users in pedagogical practice faced some problems. Most of the challenges are related to exam proctoring.

The second survey results show a positive impact on education – teachers became more confident, developed new teaching methods, and became more skilled ICT users. Florjančič argues that teachers' exchanging of best practices seems to be an essential lever for the teachers' improvement. But cheating issues are still a problem. More empirical studies are needed to verify the results.