Editorial

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Biographical notes: Lorna Uden is Emeritus 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, mobile computing, cloud computing and problem-based learning.

Welcome to V7N4 issue of *IJLT*. There are five papers in this issue. The first paper is. 'The effect of computer-mediated communication cooperative learning structures and techniques on improving EFL learners' speaking skill' by Ali Farhan Abuseileek and Awatif M. AbuAlshar. This paper investigates the effect of computer-mediated communication (CMC) cooperative learning structures (team pair solo, partners, jigsaw, and think-pair-share) and presence/absence of cooperative learning techniques (talking turn and talking time) on improving pre-intermediate learners speaking skill.

A pre-post-test was designed to gauge the effect of cooperative learning structures and techniques on the participants' performance in speaking. Students were assigned randomly into the treatment conditions. They participated in five CMC oral activities, each containing four tasks. Each activity was carried out in one of five 1.5 hour sessions using the NetOP virtual class system. The findings of the study indicated that there was a main effect for the four cooperative learning structures (team-pair-solo, partners, jigsaw, and think-pair-share) over the control condition (positive interdependence) where no special role or task was assigned to any group member. The team-pair-solo was found to be the most functional cooperative learning structure as it enabled participants with limited language proficiency to improve their speaking skill. Similarly, both techniques were reported to be very helpful for participants in improving their performance in speaking skill. Finally, the study raises major implications related to the development of CMC, e-learning and virtual class systems for teaching/learning linguistic communication skills, including speaking skill.

The results of this study should be interpreted with caution as the study was conducted on a limited number of participants with limited language proficiency who studied the same material over a limited time.

The second paper is by Odette Auzende, Hélène Giroire and Françoise Le Calvez. It is entitled 'A practical approach to using the IMS-QTI specification'. According to these authors, it is important to take advantage of the interactivity of the web, while testing the student's solution and giving appropriate feedback. They believe that the most interoperable representation to express parameterised exercises, importable or exportable

from existing learning management systems (LMSs) is IMS-question and test interoperability (QTI): an IMS-global learning consortium (GLC) specification. To ensure that instantiated exercises have the same level of difficulty, it is necessary to define constraints between parameters. However, this has limitations.

Odette Auzende, Hélène Giroire and Françoise Le Calvez have extended IMS-QTI to express the constraints between interdependent parameters. To validate this approach, the authors implemented tools for teachers: an editor for creating interactive exercises with constrained parameters and feedback; a translator of IMS-QTI files to play interactive exercises on the web without web services; a classification for storing the exercises. The proposed extensions have been agreed by the IMS-QTI group. What is missing is the evaluation of this tool empirically.

The third paper is 'Using peer-support to connect learning network participants to each other: an interdisciplinary approach' by Sibren Fetter, Adriana Berlanga, Peter Sloep, Wim van der Vegt, Kamakshi Rajagopal and Francis Brouns.

A large-scale experiment is presented which examines the feasibility of using a new method of peer-support called ad hoc transient groups (AHTGs) to foster social capital of learning network participants. In AHTGs, participants that have a request are helped by other participants in a dedicated private space ('ad-hoc') which exists for a limited amount of time only ('transience'). To test the hypotheses that AHTGs foster social capital, AHTGs were introduced to a subset of the e-twinning learning network (+130.000 teachers).

To validate the results, a no-intervention group and a comparison group that used a forum to ask questions instead of AHTGs were also examined. Results show that AHTGs seem to foster social capital on the level of relationship characteristics and mutual support. Results on sense of connectedness were inconclusive. It is concluded that AHTGs have a decentralising effect, making the network less dependent on a few key participants. Furthermore, AHTGs have clearly been shown to have a low threshold to ask a question. Within the forum group only a few core participants asked questions, yet many participants replied. It is concluded that AHTGs foster social capital in a different way when compared to a forum. Further research is needed to compare AHTGs and forums directly, in order to gain a deeper understanding of what ways they both can benefit a learning network and how they work together.

The fourth paper is 'How do we know they can do it? Developing TPACK in a pre-service course' by Anat Oster-Levinz and Aviva Klieger. According to these authors, Intersections between content knowledge (CK), pedagogical knowledge (PK), and technological knowledge (TK) include different types of knowledge that teachers should have in order to integrate technology in a meaningful manner in their teaching. With the increased use of these three types of knowledge, use of technological pedagogical content knowledge (TPACK) has also increased in research and evaluation studies in K-12 as well as in higher education contexts.

In their paper, they describe course components that enable student teachers to combine technological knowledge with pedagogical content knowledge and their contribution to the transition to technological pedagogical content knowledge. The lecturer in the course is a role model in the following course components: teaching modes, assessment methods, and technological knowledge. The research population included 40 student teachers from different disciplines. Data analysis was performed by qualitative as well as quantitative methods. The findings indicate that the course components enabled the student teachers to achieve technological pedagogical content

knowledge. The most significant factor in enhancing the process was the lecturer as a role model. Teaching modes also promoted technological pedagogical content knowledge, whereas technological knowledge was an obstacle. Providing an environment to track and control the student teachers' tasks, using a learning management system (LMS would be good for future research as well as comparing two groups of student teachers: a group that did not and a group that did use the methodology.

The last paper is, 'Addressing teachers' concerns about the Prog&Play serious game with context adaptation' by Mathieu Muratet, Elisabeth Delozanne, Patrice Torguet and Fabienne Viallet. The basic idea behind their work is called Prog&Play with its aim

1 to anchor learning into game- based problem solving situations appealing to students

2 to provide teachers with a tool that leaves them free to choose the teaching strategy adapted to their teaching context, particularly the choice of language and paradigm.

These authors argue that video games are exciting for students, and they can provide also a good context in which to embed computer programming teaching materials.

In their paper, they investigate which conditions benefit such a game to the teaching and learning of programming for beginners. They study a large-scale use (260 students and 20 teachers) of Prog&Play, a serious game specially designed to teach computer programming fundamentals. In earlier quantitative studies, they found, through a students' motivation survey, that the students' interest for Prog&Play was not only related to the intrinsic game quality, it was also related to the teaching context. These authors also investigate contextual effects that influence motivational and learning benefits while using Prog&Play in different teaching settings. The data collected show that, using a serious game only as an illustration tool inside a regular teaching seems to limit the possibilities of learning and motivation. The success depends to a large extent on the depth of students' Prog&Play experience and the instructional support given to them. Further evaluations are needed to validate the effectiveness of such a tool.