

# EIC Editorial

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Dear Readers,

Welcome to our third issue this year, which includes nine papers exploring advanced technologies for technology-enhanced learning.

The issue is opened by three papers focused on different aspects of Computer-Supported Collaborative Learning (CSCL).

In the first paper, Roland Hübscher from Bentley University investigates an important problem of group formation. The paper presents an innovative approach for the assignment of students to groups using general criteria and a flexible set of context-specific preferences to optimize group effectiveness.

The paper by Nobel Khandaker and Leen-Kiat Soh from the University of Nebraska presents a web-based collaborative Wiki writing tool, ClassroomWiki. By tracking student activities, ClassroomWiki is able to build detailed student models covering student contributions toward their groups. These models enhance collaborative learning in several ways—from group formation to specific and precise teacher interventions.

Khaled Bachour, Frédéric Kaplan, and Pierre Dillenbourg from the Swiss Federal Institute of Technology in Lausanne describe an interactive table designed for supporting face-to-face collaborative learning. By displaying on its surface a shared visualization of member participation, the table encourages participants to avoid the extremes of over and under-participation.

The remaining part of the issue covers a variety of topics from smart learning spaces, to real and virtual learning environments, to intelligent tutoring systems.

A cost-effective infrastructure for context-aware services for smart learning spaces is described by K. Scott and R. Benlamri from Lakehead University. They build on Semantic Web and ubiquitous computing techniques to realize a learner-centric service-based architecture for building intelligent learning environments in classrooms, computer labs, and meeting rooms.

Suleyman Cetintas, Luo Si, Yan Ping Xin, and Casey Hord from Purdue University address another interesting problem in the context of intelligent tutoring systems, namely, the automatic detection of off-task behavior from students' actions within the tutoring software. Utilizing multiple types of evidence and personalization, they improve the effectiveness of off-task detection using a sophisticated machine learning approach.

Raheel Siddiqi, Christopher J. Harrison, and Rosheena Siddiqi from the University of Manchester describe an automated short-answer marking system which can automatically generate marks for factual answers based on structure matching, i.e., matching a prespecified structure with the content of the student's answer text. The system is evaluated in the context of an object-oriented programming course.

Neil Y. Yen, Timothy K. Shih, Louis R. Chao, and Qun Jin investigate learning object repositories and describe their CORDRA-based solution, the MINE Registry, to support sophisticated discovery and sharing of learning objects. The associated Search Guider system assists users in finding relevant information based on individual requirements.

Nuno Sousa, Gustavo R. Alves, and Manuel G. Gericota from Porto describe an integrated remote laboratory for electronics which combines reusability and simplicity of use with an exact replication of the real lab, enabling students to finish at home the work they started in class.

Finally, Patrick Salamin, Tej Tadi, Olaf Blanke, Frédéric Vexo, and Daniel Thalmann from the Swiss Federal Institute of Technology in Lausanne investigate the use of third and first person perspectives in virtual training environments. They evaluate different perspectives in a ball catching task and find the third person perspective to be more efficient and closer to their real performance after the virtual training session.

We hope that you enjoy these papers, and as always are looking forward to receiving your submissions, both to regular issues and to a number of forthcoming special sections which will be announced on the *TLT* website.

Wolfgang Nejdl, *Editor-in-Chief*  
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