

Introduction to the Technology Supported Learning Minitrack

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The Internet era of computing is creating new opportunities for new forms of distributed learning and course support than ever before. In order to more effectively leverage this growing potential, continued research on the topic of Technology Supported Learning is essential. The Technology Supported Learning minitrack strives to encourage papers from a variety of perspectives such as different research epistemologies as well as papers that derive from both industrial and academic settings that focus on exploring how this potential can be effectively harnessed. This year, our session will consist of three papers. A brief summary of each is presented below.

The first paper, entitled “GSS Facilitation Restrictiveness in Collaborative Learning,” comes from Mohammed Khalifa, Ron Chi-Wai Kwok, and Robert Davison. The authors indicate that although previous studies have reported positive effects of GSS on learning, they have not explained how such effects are influenced by facilitation. In a series of laboratory experiments, the authors investigate the effect of process and content restrictiveness on learning outcomes. Results show that restrictive process facilitation using GSS hinders knowledge acquisition.

The second paper comes from Lynne P. Baldwin and Jasna Kuljis and explores visualization techniques for learning computer programming. The authors argue that visualization techniques such as using familiar metaphors, employing spatial relationships, and creating interactive user interfaces help enhance the development of accurate mental models. These techniques offer insights into the learning and teaching of programming which tends to be a difficult and complex cognitive task.

Yongwu Miao and Jörg M. Haake provide the final paper in the minitrack, “Supporting Problem Based Learning by a Collaborative Virtual Environment: A Cooperative Hypermedia Approach.” The authors report on a custom developed system by the name of CROCODILE that provides a collaborative virtual environment to support problem based learning. CROCODILE uses cooperative hypermedia technology to represent both shared learning spaces and shared information spaces as shared hyperdocuments. Results indicate support for the notion that common understanding and construction of shared knowledge can be facilitated, thus overcoming difficulties frequently associated with problem based learning.

As in previous years, we appreciate the strong efforts of our colleagues who have worked so hard to submit papers, served as reviewers for those submissions, and who have attended our sessions. It is the result of these extraordinary participants that makes the Technology Supported Learning minitrack such a rich and diverse resource. We are looking forward to another successful series of presentations.