Special Issue:
Building Technology-Enhanced Learning Solutions for Communities of Practice

FOREWORD

Liliane Esnault, Editor-in-Chief, E.M. Lyon, France

I am very pleased to introduce this special issue of International Journal of Web-based Learning and Teaching Technologies, edited by Nikos Karacapilidis, from the University of Patras, Greece.

The articles included are an enhanced version of selected communications that were first presented at the TEL-CoPs’06 - the 1st International Workshop on Building Technology Enhanced Learning solutions for Communities of Practice held in conjunction with EC-TEL’06 - the 1st European Conference on Technology Enhanced Learning, which took place in Crete (Greece) from October 1st to October 4th 2006.

The workshop included research papers, position papers, papers on technology developments, and work-in-progress for large on-going European projects. The articles selected here reflect the richness and diversity of the presentations and the exchanges that were held during the workshop.

I would like to warmly thank Pr. Karacapilidis for his job as guest editor, and I hope that this issue will be the first of a long series of high-quality special issues for the International Journal of Web-based Learning and Teaching Technologies.

EDITORIAL PREFACE

Nikos Karacapilidis, Guest Editor, University of Patras & RA CTI, Greece

For more than 10 years, Communities of Practice (CoPs) have been recognized as effective environments to support learning by professionals, organisations, and educational institutions. Collaborative learning is inherent in such communities in that their members learn from each other by making their knowledge and practices explicit, sharing them with their peers, and reflecting on them. CoPs have several characteristics that distinguish them from formal organizations and learning situations. In fact, such communities are groups of people who share a concern, a set of problems, or a passion about a topic; deepen their practical knowledge and expertise in the area under consideration;
and interact on an ongoing basis. CoPs often emerge in the context of existing organisations or professional networks in which people are already involved in common professional practices. Throughout their life, CoPs elaborate current and/or develop new practices, through debates and exploration of internal and external knowledge.

It is broadly admitted that the learning value of a CoP is of high importance. The underlying processes of social participation, community building, development of identity, learning, and knowing are deeply interconnected, while they are articulated around negotiation of meaning, which is at the base of any individual and collective learning. Moreover, the interacting processes of participation and reification are considered as fundamental to learning. Participation means being an active participant of a social community and constructing an individual and a community identity. On the other hand, the reification process gives form to our experience by producing objects that congeal this experience into thing-ness.

It has been recognized that Web-based technologies could support the development of these communities. Consequently, more and more CoPs use virtual environments to support their activities. However, despite the rapidly increasing potential offered by technologies (including Web-based platforms, wireless communications, mobile devices, and extensive use of multimedia contents), recent research underlines the lack of adequate scaffolding in the form of both technical supports and usage of the technology to:

- express, represent, and share practices
- debate and reflect about the practices and about the life of the CoP
- develop, reify, and exploit knowledge inside and outside of the CoP
- facilitate engagement, participation, and learning

TEL-CoPs’06 - the 1st International Workshop on Building Technology-Enhanced Learning Solutions for Communities of Practice (http://palette.cti.gr/workshops/telcops06.htm), was set up to promote and stimulate the exchange of knowledge on current research trends in technology-enhanced learning solutions that aim at addressing the multiplicity and complexity of these issues. It was supported by and organized in the context of the PAL-ETTE FP6 IST project (http://palette.ercim.org). The workshop aimed to bring together scientists and engineers who work on designing and/or developing such solutions, as well as practitioners who evaluate them in diverse real environments. Particular interest was given to approaches that are built according to well-established pedagogical principles, as well as to approaches that build on the synergy of concepts such as multimedia information authoring and reuse, knowledge management, argumentation, and negotiation.

TEL-CoPs’06 was held in conjunction with EC-TEL’06 - the 1st European Conference on Technology-Enhanced Learning (http://www.ecte106.org, Crete, Greece, October 1-4, 2006). It was a very successful scientific event, which provided a unique forum for all research related to technology-enhanced learning, as well as its interactions with knowledge management, business processes, and work environments. It managed to provide a competitive yet broad enough forum for technology-enhanced learning research in Europe and worldwide through specialized workshops and the main conference. EC-TEL 2006 also provided unique networking possibilities for participating researchers and included project meetings and discussions for EU/IST projects funded within the sixth framework
program under the action line of “Technology-Enhanced Learning and Access to Cultural Heritage.”

This special issue comprises five articles that are extended and thoroughly elaborated versions of some of the most interesting works presented in the TEL-CoPs’06 workshop. These articles describe clearly the authors’ motivation and development work. We argue that they are all of significant value to both researchers and practitioners working on the technology-enhanced learning domain.

More specifically, the first article, entitled “Multimedia Authoring for Communities of Teachers,” by Agnès Guerraz, Cécile Roisin, Jan Mikáč, and Romain Deltour, presents the development of a multimedia authoring environment. Starting from an illustrative example based on the use of multimedia storytelling as authentic activity in learning, they develop a framework for their multimedia authoring environment for communities of teachers, enabling them to combine time, space, and interactivity in the learning documents. Based on standards like XML and SMIL, they define a structured authoring language independent of any publication language and a generic user interface adapted to the context of teaching learning practices.

The second article, entitled “Emergent Knowledge Artifacts for Supporting Triological E-Learning,” by Yannis Tzitzikas, Vassilis Christophides, Giorgos Flouris, Dimitris Kotzinos, Hannu Markkanen, Dimitris Plexousakis, and Nicolas Spyridatos, describes a scenario for collaborative knowledge creation in the spirit of the triological learning paradigm. According to this scenario, a group’s knowledge base (KB) is formed by combining the KBs of the participants, using various methods. As argued, the provision of flexible methods for defining various aspects of the group knowledge is expected to enhance synergy in the knowledge creation process and could lead to the development of tools that overcome the inelasticity of the current knowledge creation practices. Focusing on knowledge management, authors project this scenario to various knowledge representation frameworks, outlining the related application contexts, techniques, and issues for further research.

The third article, entitled “Social Networking Theories and Tools to Support Connectivist Learning Activities,” by M. C. Pettenati and M. E. Cigognini, argues that social networking, when applied to learning and knowledge fields, may lead to a conceptualization of learning that enables one to “blend” formal, informal, and nonformal learning. Starting from the theory of connectivism, the authors argue that a radical change is happening as regarding the role of the learner in the learning process. Personal learning environments built new landscapes that introduce the social softwares of Web 2.0 to support the learning experience. They provide an example of application of their model in a scenario based upon a course in urban sociology at University.

The fourth article, entitled “The eLog-Book Framework: Sustaining Interaction, Collaboration, and Learning in Laboratory-Oriented CoPs,” by Yassin Rekik, Denis Gillet, Sandy El Helou, and Christophe Salzmann, presents a software framework (collaboration workspace) aiming at sustaining collaborative learning and knowledge building within laboratory-oriented CoPs. The proposed framework presents some innovative features that make it different from other classical collaboration workspaces. First, it is flexible and adaptable so that it can fit the requirements of various CoPs. Second, it is usable and efficient thanks to its personalization and contextualisation mechanisms. Third, it is ubiquitous thanks to its multiple views and its advanced awareness services.
Finally, the fifth article, entitled “Augmenting Collaboration with Personalization Services,” by Christina Evangelou, Manolis Tzagarakis, Nikos Karousos, George Gkotsis, and Dora Nousia, argues that collaboration tools should provide personalization features and functionalities in order to fit the specific individual and community learning requirements. Authors propose a framework of services supporting personalization that, being embedded in collaboration tools, can act as catalysts for individual and community learning. The proposed set of services has been derived after the consideration of a generic learner profile, developed to formalize human actors in settings where learning takes place.

Liliane Esnault (esnault@em-lyon.com) is a professor in information systems management, e-business, and project management at E.M.LYON, and project manager in e-learning development. She graduated from Ecole Supérieure de Physique et Chimie de Paris (ESPCI) and has a PhD in fundamental molecular physics. She is also teaching an e-business course in a French-Chinese executive MBA organized by the Rhône-Alpes Region and Shanghai University. She is currently involved in the European research project PALETTE (integrating an interoperable and extensible set — a palette — of innovative services to improve individual and organisational learning in communities of practice). She is the author of several writings linked with her areas of expertise: e-learning and pedagogy, information systems and technology management, project management, management of organizational networks. She also is a member of several associations devoted to information resources management, e-learning and network learning, and international projects management.

Nikos Karacapilidis holds a professor position at the industrial management and Information Systems Lab, MEAD, University of Patras, Greece. His current research interests are on the areas of intelligent Web-based information systems, enterprise information systems, e-collaboration, technology-enhanced learning, knowledge management systems, group decision support systems, computer-supported argumentation, and Semantic Web. Information about his professional activities and publication list can be found at http://www.mech.upatras.gr/~nikos/.