Groups, teams and communities: Design patterns and principles for technology mediated collaborative learning

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Full day. Maximum participants 30. Intended audience: Anyone with a strong practical interest in learning and teaching in higher education, including academic teaching staff, educational and staff developers, learning technologists, educational/ instructional designers. An interest in technology mediated collaborative learning and/or educational design would be ideal. The workshop should also be of interest to people concerned with improving the quality of learning and teaching in large classes.

Objectives

This workshop focusses on design issues that arise when students are asked to work collaboratively: whether in small or very large groups. The adoption of new technologies and working methods, in tertiary education, creates opportunities and challenges – especially when learning activities can slide between physical, virtual and 'blended' spaces, and where collaboration can also involve a mixture of face-to-face and technology-mediated interactions. The workshop introduces a number of design ideas, taken from work on design principles, patterns and pattern languages, and provides an opportunity for workshop participants to use some of the associated methods to capture and share aspects of what works well in collaborative learning.

The aim of this workshop is to introduce participants to some ideas about capturing and sharing design experience, with a particular focus on (a) design principles, design patterns and pattern languages, especially as applied to (b) planning technology-supported collaborative learning of various kinds.

By the end of the workshop, participants will:

- Understand some methods of capturing and sharing educational design experience: especially, methods used in the Design Principles Database (PDP) and in related work on design patterns and pattern languages.
- Be able to evaluate some of the strengths and weaknesses of these methods, making judgements about their areas of applicability
- Have contributed and discussed ideas about various approaches to technology-supported collaborative learning: from small groups to large communities
- Understand how to draft and revise design patterns, and assemble patterns into pattern languages
- Be familiar with the main trends and emerging issues in the area.

Activities

This workshop explores ideas about design that apply to interesting intersections of the conference's thematic areas: mixing ideas about physical, virtual, blended and social spaces.

The focus of the workshop will be on designing productive methods of collaborative learning, in which students are asked to work together in combinations of various

sizes: pairs, small groups, teams, communities, etc. We will mainly work on cases where technology plays a significant role in supporting collaborative learning, though much of what will be discussed has wider relevance to learning and teaching in HE. Participants in the workshop will be asked to draw on their experience to talk about successful (and less successful) examples of collaborative learning, at various scale levels. The workshop convenors will present some ideas about capturing aspects of design experience in the form of design principles and design patterns. The core process is to see how the essential characteristics of success stories can be abstracted, and rendered more generally applicable and shareable. The approach draws on experience and design ideas associated with the development of the pedagogical *Design Principles Database* (DPD) and related work on design patterns and pattern languages.

Assuming around six hours of working time, with breaks and with lunch in the middle, the day will be structured as follows.

Hour 1	Plenary: Welcome, introductions; overview of aims & methods; focussing the workshop; **Activity 1**: Small groups; gathering and discussing examples of successful and unsuccessful collaborative learning
Hour 2	**Activity 2**: Plenary: sharing examples; **Activity 3**: Small groups: abstracting key features from the examples Plenary: introducing design patterns & pattern languages
Hour 3	**Activity 4**: Small groups: using the patterns approach to capture key features of the selected examples (pattern hatching) Plenary: review on progress; introducing the DPD
Hour 4	**Activity 5**: Small groups: linking existing design principles and patterns to selected examples **Activity 6**: Plenary: small groups present key outcomes
Hour 5-6	Plenary: discussion, future work & evaluation

About the presenters

Kashmira Dave and **Peter Goodyear** work in the CoCo Research Centre at the University of Sydney. Kashmira is a PhD student researching the use of educational design patterns and group-based learning in higher education. Peter is Professor of Education, co-director of CoCo and a Senior Fellow of the Australian Learning and Teaching Council. He was co-convenor of the 2006 ascilite Conference. His latest books are: *Students' experiences of e-learning in higher education: the ecology of sustainable innovation* (Routledge, with Rob Ellis) and *Technology-enhanced learning: design patterns and pattern languages* (Sense Publishers, with Simos Retalis).

Yael Kali is Associate Professor, Dept of Education in Technology and Science, Technion, Israel Institute of Technology, Haifa, Israel. She is a visiting scholar at CoCo and, with Professor Marcia Linn (UC Berkeley, USA), set up the pedagogical *Design Principles Database*. In addition to her interest in science education, Yael also researches and writes about teachers' design activities and design knowledge.

Elements of this workshop have been used, in a number of Australian universities, during Peter Goodyear's ALTC Senior Fellowship project (2008-9). Part of the process builds on a workshop run by Brosnan & Goodyear at the 2005 ascilite Conference. We'll also be incorporating elements of workshops run by Yael Kali in the USA, at the Technology Enhanced Learning in Science (TELS) workshop (2008), and in Israel, at the educational technology design workshop at the Israeli Open University (2005).

References

http://www.altcexchange.edu.au/teaching-design (Peter Goodyear's ALTC site)
http://www.edu-design-principles.org/dp/designHome.php (Yael's Kali's DPD site)
http://largeclass-groupwork.blogspot.com/ (Kashmira Dave's project site).