Chapter 12
The Role of CSCL Pedagogical Patterns as Mediating Artefacts for Repurposing Open Educational Resources

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ABSTRACT
Designing effective CSCL processes is a complex task that can be supported by existing good practices formulated as pedagogical patterns. From a cultural historical activity theory (CHAT) perspective previous research has shown that patterns served as Mediating Artefacts (MA) helping practitioners to make informed decisions and choices, being much closer to the practitioners’ mindsets than complex learning design models, such as IMS-LD. However, a new challenge arises when the starting design element corresponds to Open Educational Resources (OER), i.e. free resources of high quality that are typically employed for individual learning. Recent research reported in this chapter has aimed to analyze the eventual contribution of CSCL patterns such as Collaborative Learning Flow Patterns (CLFP) in the repurposing process of existing OER for collaborative learning. Preliminary evidence coming from a set of workshops with educational technology experts shows that a small set of patterns drawn from a CSCL pattern language together with other MA, such as visual representations of Learning Designs, may be inspirational and effective in repurposing existing OER. Further research is under development that builds on the successful workshop format and involves practitioners in face-to-face and virtual workshops. This new set of experiences aims to analyze the effectiveness of the pedagogical patterns and other complementary MA in helping practitioners exploit the great potential of OER in the framework of the Open Learning Network (OLnet) project funded by The William and Flora Hewlett Foundation.

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INTRODUCTION

Technology-Enhanced Learning (TEL) reflects many flavors and modalities of pedagogies and techniques that match different needs or perceptions regarding the teaching/learning processes. For example, proposals and systems may focus on individual or collaborative learning, face-to-face or distance settings, project or problem-based scenarios, models based on transmission or participation, etc. On the other hand, an increasing number of Information and Communication Technologies (ICT) tools and educational resources are available to be employed in order to support teachers, learners or researchers in different phases of the teaching/learning process, namely: design, enactment, and evaluation. Such a landscape is full of promising outcomes, but at the same time its complexity generates many obstacles that impede taking full advantage of the potential benefits. Finding a route through to effective uptake of methods and tools has proved particularly resilient to solution in the case of technology-supported innovative pedagogies, such as Computer Supported Collaborative Learning (CSCL) (Dillenbourg, Jarvela, & Fischer, 2009).

Several approaches to enable a more effective and efficient uptake of CSCL have been proposed that reflect broader movements in the TEL or e-learning field. The research field appears fragmented so that we can find similar proposals related to: formal and informal visual design languages (Botturi & Stubbs, 2008); pedagogies, tools and learning design (Conole, Dyke, Oliver, & Seale, 2004, Conole, 2009a); CSCL scripting (Weinberger, Collar, Dimitriadis, Mäktalosiegel, & Fischer, 2009); and, pedagogical design patterns for CSCL (Hernández, Asensio, Dimitriadis, & Villasclaras, 2010). Each of these initiatives aims to leverage informed design, use and reuse of teaching/learning activities, based on sound pedagogical strategies, techniques validated in practice, or quality resources (tools and contents). Even though different terminologies are used, all share a common basis in providing what we will term here Mediating Artefacts (MA), - theories, techniques, visual representations, pedagogical patterns, etc. - to stakeholders, so that they can employ them during the whole lifecycle of the teaching/learning activities within a certain context (see Conole, 2008 for an explanation of our use of the term Mediating Artefacts).

We can think of the Collaborative Learning Flow Patterns (CLFP) (Hernández, Asensio, & Dimitriadis, 2005) as an illustrating example of such Mediating Artefacts. These patterns represent well-established techniques for collaborative learning that regulate the flow of learning activities, well established and used CSCL patterns include “jigsaw”, “pyramid” and “think-pair-share” – each provides a different, structured learning design for fostering collaboration. Patterns such as the Collaborative Learning Flow Patterns (CLFP) have been successfully implemented in the Collage authoring tool within a pattern-supported design process for new CSCL scripts. From a cultural historical activity theory, the term Learning Design in this case is used to describe the research field that is developing tool and resources to support the design of learning activities (Cross & Conole, 2008). Patterns are an important sub-set of Mediating Artefacts, which give a structured description that is well understood by educational practitioners and serve as an “interface” for practitioners when they are faced with the task of generating effective learning designs or scripts that scaffold the learning process. The usefulness of such patterns is even more distinctive when the final product of the educational practitioners is a Unit of Learning (UoL) computationally represented in a standard Educational Modeling Language, such as IMS-LD (IMS, 2003). Teachers as the main stakeholders and orchestrators of the learning activities need guidance that is closer to their own mindset and practical restrictions and not on those imposed by a technical specification. Thus, the Collage tool, which acts as a further MA that builds on the