It's all about metacognitive activities: computerized scaffolding of self-regulated learning

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Students in elementary education often learn in small groups in open learning environments, such as the Internet, e-learning environments and games. Students will be working and learning in small groups with computers throughout their lives. They therefore need to be able to regulate their learning in multiple settings to become successful life-long learners in the global knowledge society. However, practice and research have shown that many students lack the skills to adequately regulate their learning.

This thesis describes a computerized scaffolding system that was developed to provide dynamic scaffolds that stimulate self-regulated learning. The goal of the scaffolding was to support small groups in complex computer-based learning environments to enhance their self-regulation and their learning.

The findings show that scaffolding stimulated students’ metacognitive activities and enhanced their knowledge. Scaffolding also supported group performance but did not affect students’ domain knowledge. Moreover, problematizing scaffolds in the form of questions generated greater effects on learning than structuring scaffolds in the form of statements. These findings contribute to the understanding of how computerized scaffolding in collaborative settings can facilitate students’ self-regulated learning and their metacognitive knowledge.