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Introduction to the special issue: New approaches to the study of self-regulated learning

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In this special issue, five studies highlight exciting new directions in the study of self-regulated learning (SRL). The studies focus on learning contexts, school and classroom practices, relationships among psychological constructs, and innovative measurement of SRL.

Perry, Thauberger, and Hutchinson report on how gStudy software and its associated learning kit supported young children in learning about the life cycle of frogs. The instructional activities in the kit resulted in high text-based comprehension, high SRL, high motivation for studying with the LLK, and depth of understanding. The software enables 'traces' of what the children did while engaging in learning across time and tasks to be recorded. Winne describes the next iterations of gStudy, nStudy and nStudy+ – software that can scaffold the development of SRL. Winne's paper in provocative in its suggestions of how nStudy can support learners to plan their own research programs on learning and nStudy+ can provide additional support to help learners frame and test hypotheses about their learning. Like gStudy, nStudy records data on how learners select and apply information as they learn. Both are powerful learning and research tools.

Porath, Ngara, Lai, Fogel, and Lupart present a conceptual exploration of how elementary and secondary students' understanding of teaching (both how they like to be taught and how they would teach others) relates to both SRL and epistemic beliefs. Using a cognitive developmental theoretical framework, Porath et al. report conceptual parallels between epistemic beliefs and understanding of teaching and, in turn, between understanding of teaching and SRL. A developmental trajectory in the understanding of what education entails is evident, providing an important window into learner's perspectives.

Duan, Wei, Wang and Shi also bring a cognitive psychological perspective into work on SRL in their study of executive functions (EF) that are foundational to SRL – updating, inhibition, and shifting. Duan et al. explore the interrelationships among these executive functions and their correlation with intelligence in 11- to 12-year-olds. They found that

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the EFs studied were related but also separate and that updating and inhibition were correlated with intelligence when correlations among EFs were controlled. They relate these results to patterns of brain growth and suggest studying the effect of training these EFs on SRL and achievement in future research.

Cartier, Butler, and Bouchard present an extensive study of how SRL was supported in a disadvantaged elementary school community through teacher collaboration in planning and embedding activities that support SRL in three projects across the curriculum. Both teacher and student data indicated that students were positively engaged in SRL but were insufficiently deliberate and reflective in directing their own learning. Cartier et al.'s findings provide the basis for teachers to plan strategies to support their students in more conscious reflection on learning.

Together, the papers in this special issue provide important directions in thinking about how brain development, learning tools, teacher and peer scaffolding of SRL, student perspectives on and beliefs about knowledge and learning, and teacher collaboration interact and contribute to deeper, more reflective learning for all students and about the affordances of different methodologies to expand our understanding of SRL.