



UMEÅ UNIVERSITET

# Formativ bedömning och självreglerat lärande: Vad behöver vi för att få det att hända?

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## Akademisk avhandling

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Formative assessment and self-regulated learning: What do we need to make it happen?

**Abstract**

Previous research have shown that substantial learning gains are possible when formative assessment and support for students' development of self-regulated learning skills are implemented in classroom practice. Such implementation is not straightforward and there is a need for both further understanding of the knowledge and skills teachers require to practice formative assessment, and further insights into how different characteristics of ordinary teaching practices support students' in becoming proficient self-regulated learners. This doctoral thesis includes a licentiate thesis and two articles. In the licentiate thesis, classroom observations are used to investigate the knowledge and skills used by a teacher engaged in a comprehensive formative classroom practice. The results show that the teacher's practice is complex and requires advanced knowledge and skills that are often used simultaneously and under time pressure. For example, the teacher, sometimes in a matter of seconds, handles new (to her) mathematics, makes inferences from students' responses to their understanding, and based on these inferences makes decisions about her teaching. The first article is a literature review focusing on the effects of formative assessment on student achievement in mathematics, since there is a lack of knowledge of the effects of formative assessment on student achievement for subject areas such as mathematics. In the review, a systematic literature search is made for articles studying the effects of both teacher-centered approaches and approaches emphasizing student involvement in the formative assessment processes. The latter type of approaches includes teacher practices that support students' development of aspects of self-regulated learning competence. The results show that all approaches included in the review have significant positive effects on student achievement in mathematics. The second article examines in what ways learning situations in authentic classroom practices provide opportunities for the students to develop self-regulated learning skills, and how students experience these opportunities. The analysis is based on data from classroom observations of three teachers' mathematics lessons, and on interviews with their students. The results show that instruction in self-regulated learning skills mostly occurred implicitly, and the opportunities to develop the skills were mainly provided and experienced at the observational level.

**Keywords**

Formative assessment, assessment for learning, teacher knowledge, self-regulated learning, mathematics education

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