UMEÅ UNIVERSITET

FORMATIV BEDÖMNING: EN ENKEL MATCH ELLER EN SVÅR UTMANING?

Effekter av en kompetensutvecklingssatsning på lärarnas praktik och på elevernas prestationer i matematik

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Akademisk avhandling

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Title
Formative assessment: A piece of cake or a difficult challenge? Effects of a professional development programme on teachers' classroom practice and students' achievement in mathematics

Abstract
Research reviews have shown that the use of formative assessment in classroom practice can substantially improve student achievement. However, a strong research base about how to support teachers' implementation of such formative classroom practice is lacking. In this thesis, I investigate the effects of a comprehensive professional development programme (PDP) in formative assessment on teachers' classroom practice and students' achievement in mathematics. In addition, I identify reasons for the changes made in the teachers' formative classroom practice. Fourteen randomly selected year - 7 mathematics teachers participated in the PDP. The teachers' formative classroom practice before and after attending the programme was analysed and described, and reasons for their change in practice were explored. The effect of the changes in formative classroom practice on students' mathematics achievement was examined using pre- and post-tests administered to both the intervention group and a control group. A mixed methods approach with classroom observations, teacher interviews, questionnaires and student achievement tests in mathematics was used in the studies included in the theses.

The results show that the teachers used aspects of formative assessment in their classroom practice before the PDP, but that there was plenty of room for development towards a more effective formative assessment practice. Several possibilities for developing the practice were identified. After the PDP the teachers believed in the idea of formative assessment and were motivated to make changes towards a more formative classroom practice. The teachers included new formative assessment activities in their classroom practice, but in different ways and to different degrees. The characteristics of these changes were identified, and also the characteristics of the PDP that the teachers found to be influential for their development of the formative classroom practice. Results also show that the teachers' motivational beliefs held after the PDP was an explanatory factor for their changes in practice. However, the formative assessment practice the teachers implemented did not have a significant effect on their students' achievement compared to the control group. In addition, there was no correlation between the number of formative assessment activities implemented by the teachers and their students' achievement gains. Reasons for these non-effects on student achievement, and for the teachers' degree and type of implementation of formative assessment in the classroom practice, are discussed in the thesis.

Keywords
Formative assessment, assessment for learning, mathematics, professional development, teacher practice, teacher growth, student achievement, motivation, expectancy-value theory, secondary school

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